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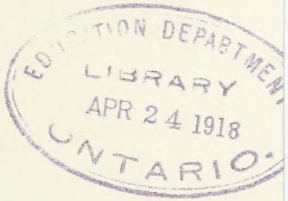

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OUTDOOR LIFE FOR WEAK CHILDREN.

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1916, No. 49

MEDICAL INSPECTION OF SCHOOLS IN GREAT BRITAIN

By E. L. ROBERTS

CHIEF MEDICAL EXAMINER OF PUBLIC SCHOOLS
NASHVILLE, TENN.

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MEDICAL INSPECTION OF SCHOOLS IN GREAT BRITAIN.[1]

I. HISTORY.

England and Wales.—School medical inspection in Great Britain as now conducted is the cumulative result of a number of legislative acts. Some of these were not specifically medical inspection acts, but inevitably implied medical inspection for their successful operation. The Blind and Deaf Act, passed in 1893 as an education act, was the first of these. To carry out its provisions for the segregation of the blind, the semiblind, the deaf, and the semideaf, skilled medical cooperation proved necessary and was furnished.

From this care of the blind and the deaf it was an easy and natural step for the education department to give special attention to other mentally or physically defective children. In 1896 a committee of the department was created to investigate the teaching of defective children (not idiots and imbeciles) and to recommend improvements in such instruction. This committee reported in 1898 with a recommendation that each local authority be required to segregate and give special attention to all children in the elementary schools who, on account of mental or physical defect or of epilepsy, could be better taught in special schools. A permissive act was passed in 1899. This has not been adopted universally, but many local authorities have adopted its provisions. The determination of defectives and epileptics in the meaning of the act was delegated to a qualified medical practitioner who must be approved by the education department. This is the first parliamentary act authorizing the employment of physicians for work in the schools, and the work done under it constitutes an important part of school medical inspection in Great Britain.

[1] This bulletin comprises the results of personal investigations supplemented by official reports covering the entire work of medical inspection as developed in Great Britain. The compiler takes this opportunity to acknowledge his indebtedness to the authorities in charge of this work in the centers which he visited for their unfailing courtesy and cordial cooperation in his efforts to obtain an insight into the operations of the extensive system. He would refer in particular to the assistance rendered by the officials of the board of education, England, of the education department of Scotland, of the London medical department, and of the corresponding departments in other cities mentioned in the bulletin.

The steps leading to medical inspection legislation may be summarized as follows:

(1) In 1902 King Edward VII appointed a royal commission "to inquire into the opportunities for physical training available in the State-aided schools and other educational institutions of Scotland, and to suggest means by which such training might be made to conduce to the welfare of the pupils." The work of the commission soon led to a medical examination of a number of school children. From the Aberdeen schools 600 children were selected, and 600 from the Edinburgh schools. The conditions revealed by the examination were so startling that at first they were regarded as gross exaggerations. Later investigations, however, in England as well as in Scotland, proved that they were not exaggerations, but were such as would on sufficient investigation be generally found.

The report of this commission published in 1903, besides reviewing the work of physical training and making recommendations for its betterment, declared that, though medical inspection was necessary "mainly for remedial effects, it was also necessary in order to make available information of the highest value both for ascertaining the facts of national physique and the means that may be adopted for its improvement, or for retarding such degeneration as may be in progress." The report further recommended that it should be the duty of the school boards to look into cases of insufficient feeding and to take steps to provide through voluntary agencies suitable food.

(2) In 1904 the report of the interdepartmental committee on physical deterioration was published, making recommendations for general, though not rigid, medical inspection. This committee, too, recommended that steps be taken to provide meals for those who would otherwise suffer for lack of them; that all voluntary means be first exhausted; and that as a last resort the school authority be required to furnish these meals. These reports, and others that follow, show that the school authorities early realized that it was often more necessary to feed a subnormal child than it was to dose him on medicine. Statutory establishment of medical inspection was thus inevitable.

(3) In 1905 a committee was appointed by the board of education to discover what was being done by the various local authorities in medical inspection and with what result. This committee found that a total of 66 out of the 328 local authorities in England and Wales had made some sort of beginning in medical inspection. London since 1891 and Bradford since 1893 had had more or less thorough systems of inspection. This committee was also instructed to inquire what was done by voluntary agencies to feed necessitous children; also to suggest ways and means for extending this work. The committee carefully considered the matters of cost, the danger of pauper-

izing the parent, and the probability of antagonizing the private practitioner. The following sentence in the committee's report is especially worthy of note: "The local authority does not attempt treatment of the children's defects." Obviously the necessity of treatment, as well as diagnosis, was early recognized. An important part of the report was devoted to the question of providing meals for necessitous children.

A succinct summary of the facts and tendencies revealed by this and the preceding reports is given by Sir George Newman, chief medical officer of the board of education, in his first annual report:

> When the terms of this report are considered, together with those of the reports on physical training in Scotland and physical deterioration, it is clear that an overwhelming mass of evidence had been collected which united to present a most convincing case, in the first place, of the physical needs of necessitous and underfed school children, and in the second, for a general system of medical inspection and supervision, with at least the possibility of acting upon the results of inspection by a scheme of treatment.

The evidence presented so far shows a disposition—

(*a*) To segregate those children of the schools who are obviously so defective that more successful means may be employed for their education.

(*b*) To employ the means of medical inspection to discover those defects of children which are not so evident on casual observance.

(*c*) To employ medical treatment for the removal of the defects thus discovered, as well as the more obvious defects.

(*d*) To furnish meals to those children who would otherwise be seriously handicapped in their physical and mental development.

Following these various investigations and recommendations, two bills were passed by Parliament. The first of these, known as the Provision of Meals Act, was passed in 1906. This act gave the local authority permission, under plans approved by the board of education, to furnish meals to necessitous children; but the authority was not obliged to submit its plan to the board unless money was spent out of the "rates," that is, the local taxes. The Education (Administrative Provisions) Act of 1907 contained a clause making medical inspection compulsory for all the local education areas in England and Wales. This was an amendment to the general education acts and imposed upon the local authority—

> the duty to provide for the medical inspection of children immediately before or at the time of or as soon as possible after their admission to a public elementary school, and on such other occasions as the board of education may direct, and the power to make such arrangements as may be sanctioned by the board of education for attending to the health and physical condition of the children educated in public elementary schools.

It will be seen that such power is given to the board of education. There is no evidence, however, that the board ever uses its powers

arbitrarily or tyranically, though it has the authority to pass upon every plan adopted by any local authority for medical inspection, for medical treatment, or for school feeding involving expenditures out of the rates. In November, 1907, the board, by virtue of the authority given in this act, issued a lengthy "Memorandum on Medical Inspection of Children in Public Elementary Schools," giving full direction to local authorities with regard to putting the law into operation. As the work developed, still other memoranda were issued. These will be considered more in detail later.

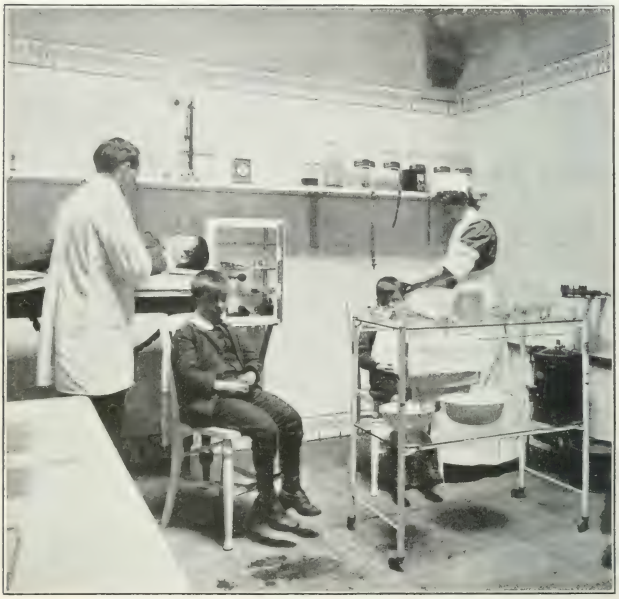
One other act of Parliament, though not a medical inspection act in any strict sense of the word, is the Children Act, passed in 1908. It has some provisions in it that enable education authorities to compel parents to do certain things for the physical welfare of their children.

Scotland.—The history of the physical welfare work in Scotland is practically coincident with that of England and Wales. The Blind and Deaf Act for Scotland was passed in 1890, three years before the act for England and Wales, but the act under which the Scotch educate their defective children (other than blind and deaf) was not passed till 1906. The Medical Inspection Act, *per se*, for Scotland was passed in 1908, one year later than the act for England and Wales. This act of Scotland also provides for the furnishing of meals to necessitous children. In 1913 the medical inspection act of 1908 was so amended as to provide medical treatment free to necessitous children. As the board of education is the chief executive body for school work in England and Wales, so the education department of Scotland is the chief body for the northern division of the Kingdom. This department has offices in London and also in Edinburgh. The department issued a memorandum for the guidance of those whose duty it was to put the medical inspection act into effect, and some parts of this memorandum give historical facts sufficiently different from anything yet given to justify their reproduction here:

> The medical inspection of school children provided for by the Education (Scotland) Act, 1908, is the outcome of a steady movement of public opinion throughout the entire community. For some years past evidence has been accumulating that there exists among the people of this nation a degree of physical unfitness that calls for amelioration and, as far as possible, for prevention. No attempt to grapple with the problem can hope to succeed unless it begins by endeavoring to improve both the personal health and the environment of the nation's children. As an initial step toward this end, the legislature has decided that medical inspection of school children is both reasonable and necessary.

Before any act was passed for the medical inspection of schools, however, much general health work was done in the schools by the health authorities. The character of this work can best be shown by a quotation from the department's memorandum.

A LONDON SCHOOL CLINIC.



AT WORK IN A SCHOOL CLINIC, LONDON.

At present all the schools in Scotland are subject to the supervision of the local authorities for public health and their medical officers of health. Every medical officer of health is required to make a report on the sanitary conditions of the schools within his public-health area. He is responsible for the medical supervision and medical inspection of schools and school children in reference to infectious diseases. Under the direction of the local government board for Scotland and in cooperation with the Scotch education department and their officers, the local authorities have maintained for some years a strict sanitary supervision over the schools and a personal medical supervision in all infectious outbreaks. More recently, many medical officers of health have made detailed surveys of the general sanitation, ventilation, lighting, drainage, and water supply of school buildings within their districts, as well as of all other conditions affecting directly or indirectly the health of the children. In the counties no less than in the towns the construction of such buildings must fulfill the sanitary by-laws affecting buildings in general. In a very large number of cases improvement, at the instance of the medical officers of health, has been made in drainage, water supplies, school closets, and sanitary matters generally.

The new powers under the present act (the Medical Inspection Act of 1908) are not intended to supersede but to supplement the large powers already exercised to such good effect by the public-health authorities. In fact, the medical inspection of school children now contemplated will serve rather as an amplification and natural development of previous legislation. This development is founded on the recognition of the close connection that exists between the physical and mental condition of the children and the whole process of education.

Attention has already been called to the fact that the medical work of the schools is only a part of the great system of physical welfare work. The foregoing paragraphs show the close relation existing between the medical work in the schools and the work of the public health officer. The recognition of this relation is one of the strong points in the British system. Both are parts of one greater system, and the officers of the two departments are required to work in harmony. The paragraphs quoted also show what a fixed place the work of general hygiene had in the schools even before there was any legislation requiring specific school medical inspection. The step was thus easy and natural from the care of children in the aggregate to the care of the individual child—from environmental care to personal care.

Before the act of 1907 became effective, there was some inspection in about 50 areas in England and in a few areas in Scotland. This was, of course, variable in kind and degree, but much of it was valuable, and it was not the intention of the board or of the Scotch education department in putting the new laws into effect to interfere with any good work already carried on. London began its work in 1891 and Bradford in 1893, while Dunfermline, Scotland, began in 1906; to-day these cities have especially progressive systems.[1]

[1] For a statement of the early work in London, see p. 46.

Bradford is a woolen manufacturing center toward the north of England and has a population of about 300,000. This was the second city in England to do anything in physical care of school children. The work was begun in 1893, the year the Blind and Deaf Act was passed, and from that day to the present time its work has grown most successfully and satisfactorily.

Bradford not only made an early beginning but has taken a leading part in extending the work beyond mere inspection for contagious disease. This city was early in the field with an excellent school clinic, where treatment is available for hundreds of children who would otherwise never get the benefit of such attention. Bradford was also a pioneer in the work of furnishing meals free to necessitous children and, at a very low rate, to all school children. As showing what this city was doing in this direction before the law requiring medical inspection was passed, a report of the Bradford education committee of recent date may be quoted. The act providing for the provision of meals had been passed in 1906, but it did not make the provision of meals compulsory.

> After careful consideration and visits to Leeds and Manchester, where a certain amount of information was obtained, it was decided to establish one central cooking depot at which all food will be prepared and cooked, and from which the cooked food will be distributed to centers in various parts of the city. The children from schools in the neighborhood of the centers will attend at these centers at midday to partake of a meal, and for the present it has been arranged to open four such centers. The central depot will be established at Green Lane School, where, on account of the supply of steam and hot water for the swimming bath, it can be done at a minimum of expense. The numerous details involved in the arrangements for the fitting up of this depot and the center have been the subject of most careful consideration and have occupied considerable time, but the subcommittee hopes that the system will be completed in the near future, and will insure that no necessitous child in Bradford goes without at least one good meal a day, and further that the meal is partaken of under conditions which will be of distinct educational value.

While Bradford and London are the most notable instances of the beginning of medical inspection work in England before the passage of the general compulsory act, there is at least one city in Scotland that is worthy of mention in the same connection. That city is Dunfermline, the birthplace of Andrew Carnegie. Medical inspection of school children is one of the many blessings that have come to that city through his beneficence. He placed a large sum of money in trust to be used for such purposes as the trustees saw fit, for the well-being of the people of the city. As a result, in 1906, three years before medical inspection was compulsory in Scotland, Dunfermline began the work.

II. ADMINISTRATION.

England and Wales.—The board of education is the chief administrative body for the public elementary schools. All plans proposed by a local authority must have the sanction of this board, which has the benefit of the experience of all cities and counties, and is in position to aid every local authority as well as to get the benefit of the experience of all. Such a system, while too cumbersome for a country like the United States, constitutes one of the strong features of England's work.

The board has a medical staff that has direct charge of the medical work of the board. This consists of a chief medical officer and 10 assistants—5 medical officers and 5 inspectors of physical training.[1] It is the duty of these officers to pass on the various plans for medical inspection, medical treatment, and school feeding that may be proposed by any local authority. They spend much time in visiting the different local areas and inspecting their work. While local authorities are not compelled to put their arrangements for school feeding or their work of physical training under the supervision of their own medical departments, and the great majority of them at present do not do so, the national board of education does administer its work in these departments through its medical staff, and has recommended this plan to the local authorities. In fact, it seems to be the tendency everywhere to put all departments of work that have for their object the amelioration of the child's physical condition and the making of a stronger physical manhood, under the school medical department.

A local education authority may be the council of a county, a county borough, a borough, or an urban district. The names are unimportant except as they distinguish the local government from the national. The plan of medical inspection for any one of these authorities originates with the authority and is subsequently submitted to the board of education for its approval. While legislation tending toward a permanent and well-defined national system of

[1] The personnel in 1914: Chief medical officer, Sir George Newman, M. D.; medical officers, A. Eicholz, M. D.; Miss J. M. Campbell, M. D.; Ralph H. Crowley, M. D.; Miss L. E. Wilson, M. D.; H. C. T. Langdon, M. B. His Majesty's inspectors of physical training are as follows: F. H. Grenfell, Miss A. E. E. Koetter, Miss R. D. Clarke, Miss N. M. Palmer, and C. B. Heald.

medical inspection had its culmination in the act of 1907, this legislation itself did not establish medical inspection. That was worked out by the board of education under the authority conferred by the act. The board promptly met the responsibility placed on it by this act. Directions were given to local education authorities in a series of memoranda, the first one of which was issued in November, 1907. The act itself is brief, but it confers on the board the power of its execution. This first memorandum, officially known as Circular 576, gave the local authority the board's interpretation of the intent and scope of the act. In January of the next year another circular was issued, and in August of the same year the third was issued.

Sir George Newman was the first chief medical officer for the administration of the act for England and Wales, and a paragraph from his first annual report will best give the broad view the board took of the work:

> From the outset the board took the view that the medical inspection of school children was but a part of school hygiene, and that the whole subject of school hygiene was not a specialty or group of specialties existing by and of themselves, but was an integral and vital part of the wider question of the health and physical condition of the nation.

In Circular 576, already referred to, the board states at length what has already been done in school sanitation, medical inspection, etc., and then comes to the subject of "organization." It will be well to quote substantially sections 4, 5, 6, and 7 of this circular:

> 4. The duties thrown upon the board of education consist in advising local education authorities as to the manner in which they should carry out the provisions of the act, and in supervising the work they are called upon to undertake; in giving such directions as may be necessary regarding the frequency and method of inspection in particular areas; and in considering and sanctioning such arrangements for attending to the health and physical condition of the children as may be submitted to them by individual authorities. The board will also collate the records and reports made by the authorities and will present an annual report to Parliament.
>
> The duty of carrying out the actual inspection has necessarily been intrusted by Parliament to the local education authorities and not to the board. Each authority must, therefore, in due course appoint such medical officers or additional medical assistance as may be required for the purpose.
>
> 5. In view of the varied influences which affect the health of the children of the nation, it is important that the administration of this act should rest upon a broad basis of public health, and should use to the utmost extent the existing machinery of medical and sanitary administration.
>
> The board views the entire subject of school hygiene as an integral factor in the health of the nation. The application of this principle requires that the work of medical inspection should be carried out in intimate conjunction with the public health authorities and under the direct supervision of the medical officer of health.
>
> 6. The interests and activities of the school medical officer must extend over the whole environment of the child. School hygiene can not be divorced from

home hygiene, and this in turn is intimately bound up with the hygienic conditions of the community.

7. After careful consideration both of the present conditions of local sanitation and of the developments most likely to serve the economical and efficient administration of this branch of the public work, the board is of the opinion that, * * * generally speaking, the work of inspection should be supervised by the medical officer of health of the authority which appoints the education committee; and when the work is more than he can undertake unaided, it should be intrusted to one or more medical officers working under his supervision.

The functions of the school medical officer may be exercised by a medical officer of health, a poor-law medical officer, a private practitioner, or a skilled specialist. In making appointments, preference should be given to medical men and women who—

(1) Have adequate training in State medicine or hold a diploma in public health.
(2) Have had some definite experience in school hygiene, and
(3) Have enjoyed special opportunities for the study of the diseases of children.

Inspection work is thus placed under the supervision of the health department, but as it is all under the supervision of the board of education in London, health control does not mean what it would in the United States, and does not carry with it the same objections. Again, the health and education departments are more closely related to each other than they are in this country, because they are both more closely related to the next higher authority.

The tendency is decidedly toward full-time officials, though many men are still employed for only a part of their time. This seems to be more generally true of dentists and specialists employed to give treatment. All the work of making the medical inspection act effective is not intended to be done by physicians. That the board realized this from the beginning is indicated in the following paragraph from Circular 576:

8. The board is convinced that work of medical inspection can not be properly accomplished by medical men without assistance. The teacher, the school nurse (where such exists), and the parents or guardians of the child must heartily cooperate with the school medical officer. * * * The board is satisfied that this work offers a great field of valuable service for the school nurse, and it recommends that, wherever practicable, education authorities should secure, especially in rural districts, the benefit and true economy which may be thus obtained. It is essential, however, that the teacher, school nurse, or health visitor assisting in the administration of this act should act strictly under the instruction and supervision of medical authority. Nor must the influence which the parent can exercise by example and precept be neglected. One of the objects of the new legislation is to stimulate a sense of duty in matters affecting health in the homes of the people, to enlist the best services and interest of the parents, and to educate their sense of responsibility for the personal hygiene of their children. The increased work undertaken by the State for the individual will mean that the parents have not to do less for themselves and their children, but more.

Accordingly, while the approval of the board of education must be obtained before a system of medical inspection can be put into operation by a local education authority, the responsibility of the initiative is, of course, with the local authority, and so imperative is the duty in this particular that a neglect of it may result in the withholding of the authority's imperial grant for educational purposes. This possibility the board calls attention to in the third of its series of memoranda already referred to. The second of the series of memoranda is given mostly to a "schedule of medical inspection," and while it shows, as does the first memorandum, the relation of board to local authority, and local authority to board, it will be best to quote from it under the next head, "Scope of the Examination and Conditions Noted." The functions of the third agency in the execution of the medical inspection act, namely, the school medical officer, are described in the board's third memorandum, Circular 596, as follows:

> The school medical officer will doubtless furnish the local education authority with valuable advice as to improvements which can be made in the use of old school premises and in the design of new school premises for improving the health of the children educated in them. For instance, he will note and report to the authority cases in which the ventilation of schools is defective. He will observe and report instances of bad positions in sitting and unsuitable designs of desks or benches. As regards cases of defective eyesight, he will indicate such measures that will remedy or mitigate the defects. He will also be able to estimate the effectiveness of lessons on the subject of personal hygiene given in the schools, and he may be able to suggest improvements. He will observe the effect of holding classes in open air, and call attention to cases in which the adoption of this arrangement is desirable. The beneficial influence of the school medical officer will not be exhausted even when he has done everything included in this formidable catalogue. The mere fact that the services of a specially skilled officer and staff are devoted by the local education authority to the oversight of all matters affecting the health of the children in the public elementary schools gives to the whole question of school hygiene a dignity and importance which can not fail to affect the minds of the teachers, parents, and children alike. From this point of view the school medical officer must be not merely a functionary charged with specific duties, but a pervading influence making, in the long run, for better hygienic conditions in the school and in the home.

With the development of school clinics the duties of the school medical officer have materially increased, since this officer has general supervision over the clinics as well as over all other school medical work. These clinics are of two kinds. One is for a more thorough examination than can be made in the ordinary school building; the other is the treatment clinic. Children whose defects demand something more than a school clinic treatment must receive much attention in any thorough system of medical inspection. The blind, deaf, crippled, weakminded, and the incorrigible, all need special attention; and in the British system the chief school medical officer is the per-

son responsible for the segregation and special treatment of such defectives. Special attention is given to the feeding of necessitous children, as well as other children who desire a warm and wholesome midday meal on the school premises and at minimum cost. The meal period is not simply for satisfying the child's hunger and for furnishing the body with nourishment, but if properly utilized it is one of the most valuable lesson periods in the day. The management of this work in some areas belongs to the school medical officer.

The duties of the assistant medical officers are the same in many respects as those of the chief officer, but most of their time is given to routine examination or treatment. Many dentists are employed, their work consisting of both inspection and treatment. Specialists are employed for the treatment of eye, ear, nose, throat, and skin diseases. These specialists usually give only a part of their time.

There is no more important factor in any system of medical inspection than the school nurse. In some instances she assists the physician, in other instances she does some of the inspecting herself. She fills a valuable place in the treatment clinic, where she applies the routine measures for many minor ailments. Her most important work probably is that of home visitation; she shows the necessity of following the medical inspector's advice, and also how to carry out the treatment for minor ailments.

There are 317 local education authorities in England and Wales and 241 of these had nurses in their school medical service during the year 1912. Exclusive of authorities who have made arrangements with local nursing associations for some work of this kind, and who have not made definite reports as to the number of nurses employed and time given, the figures as given in the report are as follows: Whole-time nurses, 397; part-time nurses, 345; total, 742.

The school attendance officer may be of very great service to the medical inspection department. Sir George Newman, chief medical officer to the board of education of England and Wales, in his report for 1912, published in 1913, says, on the duties of the attendance officer, that there are five ways in particular in which a school attendance officer may be of service to the school medical officer:

(1) By notifying the school medical officer of all cases of nonnotifiable infectious diseases which he meets with in ascertaining the causes of absence from school.

(2) By notifying all cases of blind, deaf, mentally or physically defective, or epileptic children, or children suffering from chorea, tuberculosis, paralysis, malnutrition, or neglect, etc.

(3) By notifying all cases of children absent from school on medical grounds.

(4) By notifying cases of children who are alleged to be permanently unfitted to attend school.

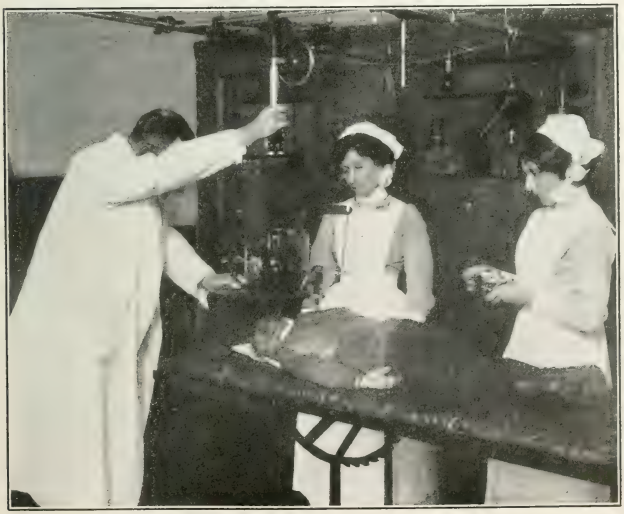
(5) By ascertaining, on visiting the home, to what extent the school medical officer's advice or directions in regard to treatment have been followed.

As systems of medical inspection become more thoroughly organized there will necessarily become a close relation between the attendance officer and the medical department. The report from which the above is taken states that in a few places the school nurse has been appointed as an attendance officer and that the arrangement has been satisfactory.

Besides the administrative authorities and officers already enumerated there are numerous agencies that render valuable aid in following up the work begun by the school medical department.

In addition to their routine duties, many of the officers have made extensive investigations of certain phases of the child physical welfare movement. A list of such special investigations and of the local authorities under which they have been conducted is given in Appendix A.

A. CLINIC FOR SKIN DISEASES.



B. X-RAY TREATMENT FOR RINGWORM.

A. A DENTAL CLINIC.

B. ANOTHER CLINIC VIEW.

III. MEDICAL EXAMINATION.

SCOPE.

The scope of the medical examination is outlined in the following statement from an annual report by Sir George Newman, chief medical officer to the board:

(1) The fundamental principle of the new act was the medical inspection and supervision of all children in the public elementary schools, with a view to securing the early detection of suspected defects, checking incipient maladies at their onset, and furnishing the facts which would guide education authorities in their relation to physical and mental development of children during school life. This underlying principle has meant, first, that all children should at some time in their school life come under medical inspection, whether they are physically healthy or unhealthy; and, secondly, that the medical inspection under which the children should pass should be not the maximum of clinical examination possible, but the minimum necessary to detect such physical and mental defects as would unfit the child to receive the education provided by the State.

The act laid down that it was the duty of each local education authority to provide for the medical inspection of children immediately before or at the time of, or as soon as possible after, their admission to a public elementary school and on such other occasions as the board of education directs. The examination of all children, of whatever age, on their first entrance to school was, therefore, a condition *sine qua non* of the scope of the work. To that entering group the board determined to add one other group, that is, the older children. Both entrants and leavers are terms therefore which cover somewhat indefinite age periods, the entrants being from 3 to 6 years of age and the leavers from 12 to 14 years of age.

In addition to the examination of entrants and leavers as required by the code for 1908–9, most authorities included in their examinations all children who, at the time of the medical examiner's visit, appeared to be in need of medical attention: the examiner also saw them from time to time at his subsequent visits. The official report on the work for the year states that no less than 250,000 children were thus added to the list of those to be examined.

In putting the board's schedule into operation the work of most of the authorities proved very satisfactory; some, however, submitted plans that went too much into detail, while others left their work too much to nurses and other nonmedical persons. These extremes were soon brought reasonably near the proper mean. The report declares:

The schedule is not, and never was, intended to be merely a means of collecting statistics. * * * The intention of Parliament was clearly that medical

inspection should be of a practical character and have practical rather than academic results.

The board's view of the scope of the examination as it applies to the individual child may be seen from the following statement:

> The board's schedule did not profess or intend to lay down either a full clinical study of the child or a scientifically complete medical examination. It indicated and comprised three objects, (*a*) to set out the methods which should be followed and the particulars which should be attended to for the purpose of determining the physical and mental fitness or otherwise of the individual child for school life; (*b*) to guide the authority in adapting the means of education to the peculiarities or abnormalities of the child, and (*c*) to prepare the way for measures for the amelioration of defects and disabilities in the child or its environment.

Medical inspection of secondary schools.—While the law applies only to public elementary schools, the work of supervision and inspection has been by no means limited to such schools. In many places the secondary school work has been given detailed attention by the medical department. In some instances the passing of a physical examination is a condition of entering a high school. In London the medical examination extends to the training colleges and trade schools. Dr. James Kerr, chief school physician for London, in his report for 1911 says that since 1908 medical inspection has been carried out in all the council's secondary schools, training colleges, trade and technical schools, and that it is just as important in these institutions as in the elementary schools; from the economical point of view, probably more important. He further states that each student is examined once a year, and that each institution is visited once in six weeks, so that the doctor can be consulted when students present any symptoms likely to affect their health or work. Every student has a medical record card, showing at a glance his condition; students are thus continuously under observation and are not permitted to continue at the institution if through illness or other causes they become unfit.

PHYSICAL TRAINING.

The relation of physical training to medical inspection receives much attention from education authorities in both England and Scotland: the board of education recommends that, as far as practicable, physical training be placed under the supervision of the school medical officer. This advice accords with the opinion expressed in the report of the royal commission on physical training in Scotland, as follows: "No systematic physical training ought to be practiced or enforced without a preliminary medical examination of the vital organs to insure that irreparable damage shall not result."

DEFECTIVES.

The Defective and Epileptic Act of 1899 empowered local authorities to segregate, for purposes of better instruction, all children mentally or physically defective. The scope of the examination suggested for the physically defective was not adequate to those mentally defective, as in these cases a mental examination was also required. As a guide in this delicate and comparatively new field of investigation, a schedule was issued by the board of education (Appendix C). In their instructions the board also dwelt upon the importance of great caution in the endeavor to estimate the mental abilities of children. In this connection the official report says:

> In assessing the intelligence, however, which is the chief criterion for differentiation of the normal child from the feeble-minded, the mental tests designed by Binet and Simon are recommended. * * * It is not recommended that the Binet tests should be applied in the ordinary school as the means of primary selection of diagnosis. The teacher should select all retarded and backward children, and the school doctor should determine, by careful examination, which children need subsequent examination by the Binet tests. It should be added that these apparently simple tests should not be applied by one not fully understanding how to use them, and the conditions and appliances necessary for reliable results.
>
> It must not be forgotten, in the case of children who are backward, mentally defective, or deaf, that a successful response will depend largely upon the spirit of sympathy and encouragement displayed by the school doctor. It is a matter of first importance, therefore, that the medical officer should, at the earliest stage of the examination, get *en rapport* with the child. Should he fail to do this, he runs the risk of underestimating the mental powers of the child, with the serious result that he may commit the child to a course of training in a school and under conditions which may be wholly unsuitable.

IV. REMEDIAL MEASURES.

It was seen early that inspection itself was only a small part of the work that was necessary, and that it would not benefit the child or the home from which the child comes merely to point out the presence of defects unless those defects could be corrected. It was equally clear that in many cases the defects could or would not be corrected merely because they had been pointed out. A more important part of the system was the provision of means on the part of the State to correct the defects discovered and to eliminate causes. The following paragraph from the report of the chief medical officer for 1909 shows that the purpose from the beginning was to get to the bottom of things and remove causes:

> The board has desired to see in the mind of the authorities applying for sanction a broad conception of the meaning of treatment. The extraction of a decayed tooth, the removal of adenoid growths in the throat, ointment for ringworm are, it is true, forms of treatment, but they do not fully cover the ground of the true conception of treatment, which should in the opinion of the board be viewed in a broad light as comprehending all influences which ameliorate or improve the physical condition of children during their school life. For instance, the modification of the teaching work of the school and its suitable adjustment to the physical capacity of the scholars is a form of treatment which in the end will bear much fruit. Thus the defective visual acuity of children, particularly young children, calls for early correction; but the rational treatment of some of these children will, as a rule, be an educational modification which avoids the necessity of spectacles, such modifications, for example, as will diminish the prevalence of the bad habit of working the eyes at near distance, or insure the adoption of suitable type of letterpress for the reader's eyes. Antecedent even to the discovery of such visual defects should come the removal of unsatisfactory conditions of school life, such as bad lighting, overpressure, ill ventilation, and overcrowding, which together or separately may prove to be a cause of fatigue and of injured eyesight. Obviously, such remedies are of greater importance to the eventual health of the community than the specific medical treatment of individuals.
>
> Physical exercises, again, if reasonably taught and rightly practiced, contribute largely to improved health and vigor, which is, after all, the best way of enabling the individual child to resist disease and become more immune to infection. Or, once more, it is idle for an education authority to attempt the treatment of, say, ringworm in individual children if no steps are taken to protect the school as a whole from infection and reinfection by the admission of children suffering from the complaint. Before sanctioning any substantial outlay on specific medical treatment, the board has, therefore, needed assurance that the authorities were really attempting to grapple with the problem of treatment in a broad and scientific way.

Various acts of Parliament under which the medical department of the schools carry on their work have already been given. Briefly enumerated they are as follows: The Blind and Deaf Act of 1893, requiring the segregation and special care of the blind and deaf by local education authorities; the Defective and Epileptic Act of 1899, providing permissively for the special care of the mentally and physically defective children of the public elementary schools; the Provision of Meals Act of 1906, permissive in character; the Compulsory Medical Inspection Act of 1907, this merely compulsory with regard to inspection, but only permissive with regard to treatment; the Children Act of 1908, containing a provision whereby education authorities may secure facilities for cleansing verminous children.

The "Schedule of Medical Inspection" adopted by the board of education for England and Wales[1] was also adopted by the Scotch education department, and in reviewing the treatment of children or their segregation for treatment Scotland will therefore be considered with England and Wales.

Remedial measures will be considered under five heads: 1. Cleansing schemes; 2. School feeding; 3. Medical treatment; 4. Special schools; 5. Physical training.

CLEANSING SCHEMES.

These measures are not mutually exclusive, for special schools must have some means of cleansing the children, though they may not have what is usually meant by the term "cleansing scheme." Special schools will also have "school feeding," and there, above all places, it should be of the most highly specialized kind.

VERMIN.

By "cleansing schemes" ordinary bathing facilities are not meant, but the term has reference to means for freeing the children and their clothing of vermin—vermin of both head and body.

One of the most deplorable conditions revealed by the British system of medical inspection was the prevalence of vermin among school children. It was found to be worse among children in the cities than among children in the rural communities, and worse among girls than among boys.

The examinations in England, as well as in Scotland, are made after the parent has been notified that it is to be done, and has been invited to be present. Hence it may be surmised that the child at the time of the examination is in better than average condition.

[1] See Appendix, p. 58.

Under the head of "Cleanliness of the Body," Sir George Newman, in his report to the English board of education for 1908, says that the reports coming to him from over the country show that from 5 to 10 per cent of the children are returned as "dirty," this too in spite of the fact that parents have been notified in advance of the examinations, and in most instances come to the examination with their children.

Under the subject of "Cleanliness of the Head," the English report above quoted goes on as follows:

> The returns in the reports of the school medical officers under this heading show a very unsatisfactory condition of affairs. The lack of cleanliness is, as would be expected, much more marked in the case of girls, on account of their long hair, than in that of the boys. Though more prevalent in the schools of the poorer districts, this condition of verminous head is by no means confined to such schools, and though similarly more prevalent in the large county boroughs, the rural areas do not escape. Judging from the returns, it may be said in a general way, that of the children examined approximately one-half of the girls examined in urban areas, and one-quarter of those in rural areas, have unclean heads. Apart from the objectionable nature of the condition and the tendency it must inevitably have to lower the feeling of self-respect, the presence of a constant source of irritation reacts unfavorably upon the child, the harm done being accentuated in proportion as the child is highly strung or neurotic.

In Birmingham the school nurse makes regular routine examinations for vermin.

The school medical officer's report for the year 1912 contains the following comment on the condition:

> Although there is evidence of a slight improvement in the percentage of those found to be clean, the figures betoken a lamentably low standard of personal cleanliness and lack of endeavor on the part of the parents. Many parents regard the presence of vermin as a normal concomitant of school life, while those who struggle to keep their children clean feel that they have a right to expect, while compelled to send their children to school, a reasonable protection from infection. The system of school bath installations adopted by most other European countries would do much to remove the stigma from our elementary schools, and to educate a new generation to a higher standard of cleanliness.

Sir George Newman in his report for the year 1911 says that the medical officers still find it necessary to give a large part of their time to uncleanliness among school children, and then adds:

> Uncleanliness of person in school children constitutes a seriously adverse commentary on their training and education. It is impossible to consider any system of education as adequate which does not insure, as an early result, implanting in the child feelings of self-respect. In proportion as this fails to be effected in the home, does it become necessary for the training to be given in the school.

Much effort has been made to improve conditions. If ridding the child of the vermin with which he is affected were all, it would be an

easy matter. But this is not all. The child goes into a home that is infected, and his condition is soon as bad as it was at first. Then the whole process of cleansing has to be gone over again. So the problem involves not simply the individual case, but the whole question of personal, school, and home hygiene. It is so important that it constitutes one of the chief duties of the school nurse. The school nurse inspects, treats, follows up the cases, and reinspects. The latest annual report of England and Wales says of the duties of the nurse on this point:

> Most authorities who have appointed school nurses to their service are employing them in greater or less degree in the work of detecting and following up verminous children.

It will be recalled that the statement was made in the section on "Administration" that 241 of the 317 local authorities had employed nurses and that others had the services of voluntary help along this line.

London County Council cleansing scheme.—The cleansing scheme adopted in London, which has served as a model to other authorities, consists of two parts, one designed to deal with verminous heads and the other with verminous bodies and clothing. There are 21 stations in use in the metropolis, and the great increase in the work in this direction is indicated by the fact that the number of children inspected by nurses rose from 251,592 in 1911 to 630,359 in 1912, an increase of 150 per cent.[1]

The latest report from Lancashire shows that the number of verminous boys leaving school (at 12 years of age) is less than 2 per cent of the whole number, while in 1909 it was nearly 5 per cent; that the number of girls at this age who were verminous was only 22 per cent of the whole number in 1912, while it was 38 per cent of the whole number examined in 1909. Many authorities show a similar change for the better, while only a few show no improvement. Where places show no improvment in the number of unclean children found, this may probably be explained by the fact that the inspection is more thorough than it had been before. Another favorable feature is the fact that, though the number infected may not be materially decreased, the virulence of the infection is not so great.

Aberdeen, Scotland, probably has the most efficient system of cleansing in the whole country and the most perfect and complete cooperation between the school medical service and the general health work. The work in this city shows fully the necessity of going beyond the individual child in the case of a verminous condition, and cleansing his environment as well. This cooperative system is

[1] For details of this work see Appendix D, p. 61.

described by Dr. Ross, the school medical officer for the city, in his report for 1911, which is here quoted:

The futility of trying to get rid of itch and vermin in the schools by dealing only with the children suffering with these complaints early became evident. Case after case that had been dealt with turned up with wearying regularity; so that it was soon apparent that unless the whole family and the home were dealt with no permanent improvement could be expected.

After considerable negotiation between the school board and the sanitary authority, an agreement was entered into to deal with all such homes and families. The expense of the scheme of cleansing, which was estimated to cost 800 pounds per annum, was to be borne equally by the board and the local authority.

The heads of the agreement between the two bodies are: That the school board undertakes the inspection of verminous children and their households, and reports to the public health department of the town council as to what is required for their cleansing and disinfection. The public health authority of the town council provides the necessary accommodation, the staff, conveyances, and apparatus for cleansing. An inspector was appointed to act under the instruction of the medical officer of the board, and the work was begun on March 13, 1911.

When a child is found suffering from vermin or itch, it is excluded from school, along with all children of the family. The house is visited by the inspector, who reports to the medical officer on the condition of the family, as to numbers, means, accommodation, bed and body clothing, etc. Disinfectant is supplied with instructions how it is to be used, or where, on account of lack of accommodation, or of bed or body clothing, it is considered necessary, the whole family is moved to the cleansing station to be treated. Where children are found verminous the second time, the family is moved invariably to the cleansing station.

When a family is taken to the cleansing station for the purpose of disinfection, every stitch of bed and body clothing is removed from the house and is disinfected. The house itself is disinfected and cleansed, fresh chaff is supplied for the beds, and, where necessary, the bed and body clothes are washed. The family thus get a fresh start in life. In carrying out this work, every consideration is shown for the feelings of those dealt with. Adult members go to the cleansing station at night and leave in the morning in time to get to work.

Although considerable dubiety was expressed at the inauguration of the scheme as to getting adults to go to the cleansing station, and of homes and families remaining clean after treatment, doubts have been agreeably expelled. The scheme has worked smoothly, largely owing to the tact of those dealing with the infected families and the excellent provision made for their comfort during the cleansing process. In only two cases has it been necessary to resort to legal compulsion.

While it is too soon to come to a conclusion about the success or failure of this scheme, reexamination of the children attending school has given so favorable results that there is ground for believing that a successful method of dealing with this reproach of our city has been found.

Attention has been called all through this bulletin to the fact that this work in Great Britain is a broad one, and that its greatest success depends on a complete cooperation between all the forces working to this end. It is felt that school hygiene can not be divorced

from home hygiene, nor can home hygiene be divorced from industrial hygiene.

The education (Scotland) act of 1908 provides that when a child is filthy or verminous it may be lawful for the school board to prosecute the parent and take charge of the child and cleanse him and restore him to a healthy condition. Under section 122 of the Children Act (which applies alike to England and Wales and to Scotland) the school board may direct their medical officer to examine the children in school, and if the person or clothing of any child is found to be infected with vermin they may notify the parents to have the child cleansed, and if the parents fail to do this the board may take all the necessary measures to have it done, and when called on by the school board to do so the health authority must place at the disposal of the school board any places or equipment they may possess for the purpose of cleansing persons or clothing. With such resources at their command it is possible for the boards of education or education committees to do much toward cleansing the children and thereby raise the physical, moral, and social standard of the nation.

In addition to school cleansing as a remedial measure in the strict sense of the word, some attention may be given to school bathing, separate and apart from its use as a treatment measure. The shower bath has been introduced in the schools of many education authorities because of its value in teaching the child the habits of personal cleanliness. The child naturally feels better when he is conscious of the fact that he is clean; he feels more like doing the daily work of the schoolroom, and he is more likely to be in a condition to ward off disease. The board of education (England) recognizes the value of this form of bath in computing grants from the national treasury based on attendance. The board has also expressed a willingness to consider the installation of shower baths wherever such may seem to be needed, whether for a new school building, for an old school building, or for some independent building accessible to school children. In numerous institutions there are swimming baths as well as shower baths. While there are baths at the present time in only 20 local areas, with the impetus that the movement has, and with the value that it is conceded to have in so many ways, it is considered to be only a matter of a few years before every local authority in Great Britain will have established some form of bathing in the schools.

SCHOOL FEEDING.

The next remedial measure to be considered is that of school feeding. Strictly speaking, school feeding is not a branch of the medical inspection department, and yet it would be impossible to give medical inspection broad scope and leave out this feature. The board of

education administers this department through its medical staff. The separation comes in the local education authority; the local authority is not required to put school feeding under its medical department, though the tendency is to closely relate the two. The fact that the "Provision of Meals" Act was passed and put into operation before the act providing for medical inspection was passed probably explains the separation of the two services.

The investigations that led to the passage of the Provision of Meals Act were not primarily directed to school feeding. The necessity of the provision was emphasized, however, as already noted, in the report of the royal commission on physical training in Scotland and also in that of the interdepartmental committee on physical deterioration. The committee appointed by the president of the board of education in 1905 was directed, as one part of its duties, "to inquire into the existing arrangements of voluntary agencies for the provision of meals to school children, and to report as to the possibility of its better organization."

In his first annual report to the board of education, the chief medical officer comments on the reports of these three committees as follows:

> When the terms of this report are considered, together with the reports on physical training in Scotland and physical deterioration, it is abundantly clear that an overwhelming mass of evidence had been collected which united to present a most convincing case—in the first place of the physical needs of necessitous and underfed children, and the second for a general system of medical inspection and supervision, with at least the possibility of acting upon the results of inspection by a scheme of treatment.

The result of these investigations and recommendations was the passage of the Education (Provision of Meals) Act. This act gave the local authority the right to furnish meals to necessitous children or others, and to aid committees who were doing such a work by furnishing them with equipment and staff. The local authority, however, must have representation on the committee. Even then it could not use public funds as long as private funds were available for the purpose. But if no private funds were available from any source, the authority might spend an amount not to exceed one halfpenny on the pound on such a plan as had been approved by the board of education.

Although the board of education has not the power to require that the feeding of children be made a part of the work of the medical department of the local authority, it is fully convinced that such an arrangement would be the best. As evidence of the board's view of this matter, the latest report of the chief medical officer has the following to say:

> In the board's view no scheme can be regarded as wholly satisfactory unless the school medical officer—

(*a*) Has the right to nominate for school feeding any children found at the routine medical inspection or on special examination to be suffering from malnutrition due to insufficiency or unsuitability of food;

(*b*) Is consulted as to the dietary provided;

(*c*) Has the right and duty of inspecting the actual arrangements made in regard to the preparation, distribution, and service of the meals;

(*d*) Is consulted in all cases of doubt as to the necessity for retaining a child on the feeding list owing to its physical condition.

There are two tests used for the selection of the children who are to receive the benefits of the Provision of Meals Act. They are known as the poverty test and the physical test. In using the physical test the child's state of nutrition is considered without regard to the probability or improbability of his having sufficient food. The poverty test is one in which the child's present financial condition is considered. Any condition that renders the child unable, for the time being, to secure proper food is sufficient justification for placing his name on the feeding list. The majority of authorities use the poverty test. The following statement taken from the report (1912) of the chief medical officer of the board of education will be of interest:

Inquiries are made as to the total weekly income of the family. House rent is deducted from this total and the remainder is divided by the number of persons in the family. This gives the net income per week per head. If the income is below a given amount, meals are provided; if above it they are withheld.

It is obvious that the only sound criterion of selection is the physical condition of the child. It is true that whether the selection be made on a physical or a poverty basis, the majority of the children will probably be the same in both cases. On the other hand it must be remembered that in a considerable number of households which are fairly well-to-do there will be found children who, owing to the unsuitable character of the food provided or to neglect, are suffering from malnutrition and are therefore fit subjects for admission to the meals. Where selection is on a poverty basis children of this type are passed over. Another objection to the adoption of the poverty test lies in the fact that the physical well-being of the child is often sacrificed to the natural reluctance of the parent to take upon himself the social stigma involved in the acceptance of any form of relief. That the poverty test has been so generally adopted is doubtless due partly to the ease and precision with which a purely mechanical test of this kind can be applied and partly to financial considerations—the idea apparently being prevalent that only by this method can expenditure on the provision of meals be kept within reasonable bounds.

The selection of the child who is to receive meals is not the only problem confronting the authorities. The selection of the menu so that it will contain the greatest food value for a minimum cost and at the same time be palatable and appetizing is a problem of equal difficulty. The variety and time of serving are questions to be considered. In the main the food is prepared in large cooking centers from which it is distributed to the several individual schools or feeding centers. This is not the invariable rule, however. The special

schools of the various kinds have their own cooking equipment and do their own cooking on the premises. The diet and the time of service also vary more in the special schools; particularly is this true for conditions such as anemia and tuberculosis.

Below is given a list of menus furnished to the necessitous children of London by the Alexandra Trust. They are furnished under contract, and cost about 4 cents apiece.[1] This center has furnished as many as 30,000 meals a day. The meals are sent out in heat-retaining vessels to 170 different feeding centers, at which places the children gather to partake of the meal.

1. Dinner menus for winter:
    1. Haricot bean soup, bread, treacle, pudding.
    2. Fish and potato pie, bread, baked raisin pudding.
    3. Pea soup, bread baked in dripping, fruit pudding.
    4. Stewed beef or mutton, suet roll, steamed potatoes, bread.
    5. Beef stewed with peas, suet roll, potatoes, bread.
    6. Mutton stewed with haricot beans, steamed.
    7. Meat and potato pie, bread.
    8. Meat pudding, potatoes, bread.
    9. Toad-in-the-hole, potatoes, bread.
    10. Rice pudding, two slices of currant or sultana bread and butter.
2. Dinner menus for summer:[2]
    11. Rice pudding, two slices of bread and butter.
    12. Toad-in-the-hole, potatoes, bread.
    13. Meat pies, potatoes, bread.
    14. Meat pudding, potatoes, bread.
    15. Cold meat pie, fruit roll.
    16. Meat sandwich, piece of cake.
    17. (For infants.) Hot milk and bread, fruit roll.

The next seven are for infants, and Nos. 18, 19, and 20 are the same as Nos. 4, 5, and 6 above:

21. Rice, tapioca, macaroni, or barley pudding, with two slices of sultana bread and butter.
22. Stew—very fine mince.
23. Baked custard, with bread and butter.
24. Savory custard, with bread and butter.

The next three are breakfast menus:

25. Cocoa, porridge, and two slices of bread and butter.
26. Cocoa, three slices bread and dripping.
27. Hot milk and bread, two slices of bread and jam or marmalade.

Special diet is provided for children in the tuberculosis schools or recovery schools of various types.

Meals are furnished to many children without cost to their parents, but the parent is always expected to bear the expense when he can do so, and often the meals are furnished and the cost recovered

[1] Based on prices prevailing before the war.

[2] The summer dinner menus are ordinarily supplied to the dining centers through June, July, August, and September, and the winter menus during the other months. If desired, however, the winter menus will be supplied at any time during the year.

later from the parent by a civil suit. Again, the parent may pay only a part of the cost of the meals—a half or less. The effort is carefully made to avoid pauperizing the parent on the one hand and imposing upon the State on the other.

The last point to be mentioned is the educational value of the meal. Efforts are made to have the children orderly, show respect for each other, and appreciation for the free gift of the food; they should also be taught to masticate their food thoroughly. For this purpose plenty of time must be given for the meal.

From time to time inquiries are made as to the improvement of the conduct and manners of the children who receive the free meals. As the result of such an inquiry in 1912 on the part of the Bradford education committee, 43 teachers reported considerable improvement, 61 distinct improvement, and 29 slight improvement; 83 reported no visible difference. The following quotations from the reports of school medical officers are suggestive in this relation:

As the meal itself is attractive, it is a matter for regret that the educational advantages of good table manners are not insisted upon.

The behavior of the children was far from orderly, and the educational value of the meal practically nil.

A few older children acted as monitresses, but there was nothing very satisfactory about the way in which the dinner was served. * * * The walls of the room were extremely dirty.

The arrangements are extremely primitive, the meals being served on old school desks covered with white oil baize much worn. There is complete absence of amenities, such as grace, punctuality, simultaneous assembly, attention to manners. * * * The selection and management is on the pauper basis entirely. Neither the school medical officers nor the teachers are associated with the work.

The following quotations give another view:

The ladies of the helpers' committee have again undertaken the duties of being present at the meals, and they report that the discipline and behavior of the children are most satisfactory.

The meals are supervised by the teachers. * * * The children all sit down together, and grace is said.

The head teachers are also asked to impress upon the scholars that they must attend the canteens in a clean condition, and the district committees are authorized to refuse breakfast to any child coming in a dirty condition after suitable warning.

The room is clean, bright, and well lighted, and is fitted with tables covered with white oilcloth.

One of the chief educational values of a meal, as distinct from the distribution of food, is the opportunity of teaching the children to regard themselves as members of an organized community with social obligations to each other. It must not be forgotten that in many of the poorest homes meals as such do not exist, and that food lies on the table all through the day, to be snatched up and eaten whenever whim or hunger prompts. The introduction of tables and seats, of plates, forks, and spoons, and the orderly arrangement of beginning and ending the meal with a grace can not fail to have a marked effect in the general and moral value of the meal, while at the same time the longer period allowed for sitting and talking favors the digestion of the food.

It is the consensus of opinion among the teachers that the administration of school meals is having a decidedly beneficial effect on

the physical, social, and intellectual life of the child. And as the relationship between the administration of meals and the work of the teachers becomes closer and more general, and as the school medical department becomes more closely connected with the work of the canteen committee, the good results will be incalculable.

SPECIAL SCHOOLS.

If a child's defects can not be overcome, it is considered best to place him in a special school that will suit his case. The classification of these schools varies under different authorities, and naturally in the large centers of population classification and segregation can be carried much further than in sparsely settled rural communities. It is often the case that school authorities having few defective children to provide for arrange to send them to special schools in other areas.

For the purposes of this bulletin the following classification will serve:

1. Schools for the blind.
2. Schools for the semiblind.
3. Schools for the deaf.
4. Schools for the semideaf.
5. Schools for epileptics.
6. Schools for the physically or mentally defective.
7. Schools for stammerers.
8. Schools for children with chronic contagious skin diseases.
9. Open-air schools.
10. Industrial schools.

There are many combinations between these classes of schools as well as numerous subdivisions. This is necessarily the case, since much of the work now included in the department of medical inspection had its legal beginning long before medical inspection was required by law.

Schools for the blind.—The first day school for the blind in England was opened in 1879 in London, and like all schools of the kind established before 1893, when the Blind and Deaf Act went into effect, was conducted without Government aid. The act was compulsory for the period of elementary instruction. By the provision of the education act of 1902 local authorities were empowered to establish higher education for the blind and deaf, and several authorities have availed themselves of the privilege.

The school for the blind in Manchester, located on Shakespeare Street, accommodates about 40 children ranging in age from very young children up to 16 years. The building which it occupies is an old residence that might not be suitable for a school for any other class of children. It is noticeable that many of the special schools are in old buildings which were not constructed for school purposes. This may be explained by the fact that the special schools have mul-

tiplied faster than provision could be made for them; furthermore, large buildings are not needed for most of the day special schools. In the Manchester school besides the literary instruction by the ordinary Braille system, there is a great deal of manual work. Music also receives attention.

Schools for semiblind.—There is a school for the semiblind in Harvist Road, London. Some of the children in this school might do work in the ordinary elementary school, but their eyesight would be endangered thereby: most of the children, however, could not carry on such work. The head teacher furnished the following description of this school:

Equipment.—1. Blackboards ruled in 4-inch lines on all available wall space which can be easily reached by the child.

2. Specially designed "Bishop Harman desks for myopic children."

3. Roller blackboards made on the principle of a roller towel from American cloth treated with special preparation to make it dull and nonreflective. Size: 20 feet by 4 feet 6 inches (which gives a writing space 20 feet by 4 feet 6 inches), easily adaptable to the height of any child.

4. Four sheets of American cloth 27 feet by 24 inches fastened to a lath to be used on the desk.

5. Exercise books made of black paper as per specimen.

6. White Conte a Paris crayons and pencils to use in connection with No. 5.

7. Dustless Hygiea white chalk for blackboards.

8. Black cardboard mounting boards for reading lessons, 30 by 32 inches.

9. Plain block-type printing set with interlocking pins. Size, 1 inch by 2 inches.

10. One shop printing set.

11. Black indorsing ink for use with printing set.

12. White cartridge paper and cardboard for printing on. Sizes, 15 by 11 feet and 27 by 40 inches.

13. Black linoleum 10 by 6 feet framed for map drawing.

14. Surveyor's measuring tapes which are very plainly and clearly marked.

Curriculum.—The following subjects are taught orally at a near-by ordinary elementary school: Singing, physical exercise, Scripture, nature study, history, geography, recitation. The last three are supplemented by suitable extracts written on blackboards or printed in large type previously referred to. The following are taught within the Harvist Road building: Arithmetic, reading, writing, composition, history, geography, recitation, speech training, manual occupation.

Lessons are correlated as far as possible. For example, a child listens to an oral lesson in history or geography at Pakeman Street (the near-by grammar school), and then comes here and reproduces what he has been taught by means of large sketch maps or composition according to text of lesson.

Scripture.—At the recent Scripture examination, those children not examined orally, for example, Standard IV and upward, were tested by exactly the same questions as the normal children. Copies of these were obtained from the headmaster and some printed in large type, others written on the blackboard. Children answered on blackboard, teacher marking each question as it was finished. Results reflected great credit on teaching at Pakeman Street.

It is on this correlation of the work that much of the success of this type of school depends.

Reading.—Two or three of the most pertinent paragraphs in each reading lesson, extracts and quotations from the poets and standard authors, are printed in suitable type to form actual reading matter. The remainder of the lesson, the story of the poem, or the text of the extract, is read or related by the teacher to point and finish the whole.

Speech training.—Attention is called to the different elements which form speech—for example, vowels and consonants and to the position of the organs producing.

As a rule the girls enunciate more carefully and imitate more perfectly than the boys. Each sound has some story connected with it.

The schools for the blind are not included under "remedial measures" in the sense that they correct the defect with which the child is affected. Hence, schools of this kind may properly be considered in the discussion of a system of medical inspection. But in many cases, for instance that of a child with high myopia, improvement may take place if the proper attention is given early.

Schools for the deaf.—These schools are very much like the foregoing, so far as their relation to medical inspection is concerned. They are "remedial schools" only in part. The effort is made to remove any abnormal conditions of nose or throat that may be aggravating the ear defect. But the most important connection of the medical inspection department with this line of work is the detection of defects of hearing before they have advanced beyond remedy. In some systems teachers make periodic routine examinations of the hearing of children in their classes. If the medical examiner finds conditions that can be remedied by medical or surgical measures, he secures the remedies; but if the child's hearing is too low for him to profit by the ordinary methods, he is recommended for a school for the deaf or semideaf, according to the degree of his deafness.

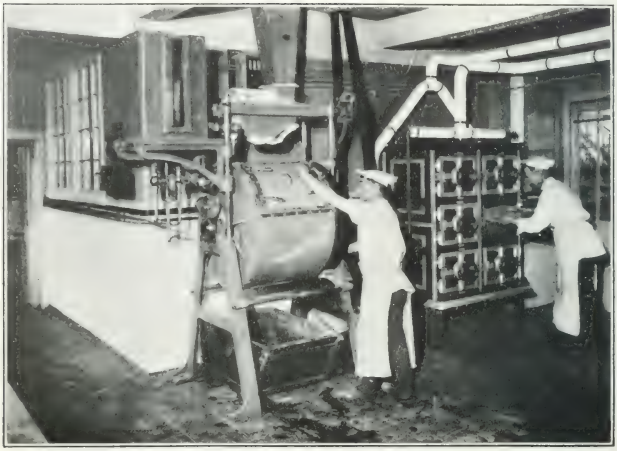
Schools of this kind are to be found in Birmingham, Glasgow, Bradford, and London. In London one of the schools has a class for the semideaf. In this school much care is taken to preserve and improve what hearing yet remains. Special instruction for the deaf is compulsory throughout the whole country, and attendance upon the instruction is compulsory.

Schools for epileptics.—The law governing the schools for the blind and the deaf, passed in 1893, was compulsory. The law governing the work of epileptics and children mentally and physically defective, passed in 1899, is permissive. The defect of epilepsy in the meaning of the act was to be determined by a physician selected for the purpose by the education department. This was the first instance in England in which statutory powers in connection with school administration were given to a medical officer.

That part of the act providing for the segregation and special education of epileptics has not been very generally adopted by local authorities. There are perhaps several reasons for this failure. The act provides that the child must be suffering to such a degree as to

A. OPEN-AIR REST ROOM—THE REST PERIOD.

B. OPEN-AIR REST ROOM FOR TUBERCULAR CHILDREN.



A. COOKING CENTER, EDINBURGH.

B. PREPARING TO SEND OUT HOT FOOD FROM THE COOKING CENTER, EDINBURGH.

render him unfit to attend the ordinary elementary school, and yet his condition must not be so bad as to render him unfit to be educated. Again the number of epileptic children in a local area is not always sufficient to justify the establishment of a special school, and the difficulty of making satisfactory arrangements with another authority is not in every case easily overcome. According to the report of the board of education for 1912, there were only six residential schools for epileptics in England and Wales at that time. These schools had accommodation for about 500 children, but with the exception of one established by the Manchester authority, they were all under voluntary management. A description of the Manchester school follows:

The Soss Moss residential council school for epileptic children, under the Manchester education authority, was opened in November, 1910. Children had for some years previously been sent to the David Lewis Epileptic Colony adjoining, but the number of children dealt with by the education authority becoming so large, the authority decided to open a school of their own. The school is situated about 3 miles from Alderly Edge and about 15 miles from Manchester, and is placed on a site of 23 acres. The children are accommodated in four "homes," two for boys and two for girls, each accommodating 25 children. The school forms a separate building. A matron is placed in charge of each of the homes, and the head master of the school acts as superintendent of the whole. The cost of buildings and furnishing was approximately $900 per head of accommodation. A visit is paid to the school each week by the school medical officer to the Manchester education authority, Dr. Brown Ritchie, who is responsible for the admission and discharge of the children and the general administration of the home. Dr. McIlraith, a practitioner in the neighborhood, visits at least twice weekly, and is responsible for the general health of the children.

* * * * * * *

Lingfield is the only one of the six epileptic colonies where a medical man is in residence. Dr. Hume Griffith is superintendent of the whole colony, and on this account there can be no doubt that the children receive more detailed medical care. A dentist attends once weekly. At Chalfont a dentist attends once a month. At Much Hadham a dentist attends quarterly and an oculist twice a year. At Starnthwaite a dentist visits three times a year; an oculist attends at intervals. An oculist, but no dental surgeon, has been appointed at Maghull. At Soss Moss both a dental surgeon and an oculist are on the staff.

Much attention has been given to the cause, the time of onset, the frequency of occurrence, and the treatment of epilepsy. Some investigators have reported as many as one case in every 400 children examined; others report one in every 1,400. The institutional or home treatment has been found to be the best. Attention must also be given to classification according to age, sex, and grade of epilepsy. As few of the children are able to leave the institution at the age of 16, the after care must receive attention. The life must be as simple as it is possible to make it. Interest must be

kept up without wearying the brain. Light manual work forms an important part of the daily routine. Gardening is considered one of the best lines of work, as it gives interest, outdoor life, and mild exercise all at the same time. So far as diet is concerned, the food should be well cooked, easily digestible, and there should be very little meat eaten. As so many cases going from the schools are lost sight of, the experience of the authorities so far does not admit of a very definite prognosis. But on the whole it may be said that the school life is more palliative than curative.

Schools for physically defective children.—The segregation and care of this class of children is provided for in the same act as that which provides for the care of epileptics. Its provisions have been more generally adopted, however, as applied to these children than they have as applied to epileptics. For the code year ending July 31, 1912, there were 67 schools in England for physically defective children. They had a capacity of 5,260 and an attendance of 4,674. These schools have a twofold object: They relieve the defects with which the children are suffering and they afford instruction most suitable to the child's probable future. The effort is made to enable the child to be self-sustaining in spite of his defects. The same classification is not observed in all cities. Even in the same school the work may be varied greatly to suit the individual needs of the children. If a child can do a certain kind of manual work better than anything else, he is allowed to do that so far as it is not incompatible with a reasonable amount of organization.

One good feature in connection with this class of schools in Liverpool is the interest taken in the work by the Invalid Children's Association. When the school medical officers find children who are suffering with certain forms of tuberculosis or joint or orthopedic defects that require special surgical apparatus, the cases are reported to the officers of this association, who usually succeed in securing the necessary appliances. When the children are in need of a convalescent home, the same course is pursued and with the same gratifying results. In the two schools for physically defective children in Birmingham there were 229 enrolled in 1912. The list of conditions and diseases with which they were afflicted follows:

Tuberculosis—	
Spine	35
Hip	38
Knee	15
Various	7
Infantile paralysis	44
Spastic paralysis	12
Pseudohypertrophic paralysis	1
Various muscular dystrophies	4
Various deformities (including rickets)	38
Spinal scoliosis	11
Congenital dislocation of hips	7
Heart disease	8
Various	4
Total	229

Dr. Auden, the chief school medical officer, states in his report from which these figures are taken, that the children are all suffering from dental caries in a serious form, which he believes is very detrimental to their health and may even be the one adverse circumstance that turns the balance against recovery. It is his opinion that these day schools for this class of children are doing much good, but that much more is yet to be done. His idea is that this work, to be most successful, must be carried on in a residential institution having under one roof and under one management educational, clinical, and trade training curricula. The children in these schools are conveyed to and from their schools in vehicles provided by the city. The same is true in other cities. In Edinburgh an arrangement is made with the car company for carrying large numbers of the children to the Duncan Street School.

Many of the schools for physically defective children also have the mentally defective children in the same building. This enables the authorities to economize in matters of administration and conveying children to their schools. The Duncan Street School in Edinburgh, previously mentioned, is one of this type, as are the schools for defective children in Liverpool and in Birmingham. The Edinburgh school provides for the physically defective, the mentally defective, and delicate children, and is somewhat on the open-air plan. The seven rooms of the building all face toward the south, and the southern wall can be entirely removed. A large sheltered garden, with space for sand heaps, and other outdoor attractions make this department of the work both interesting and profitable for the children.

A school at Manchester for crippled children is worthy of special note. It is situated 4 miles out of the city, on a site comprising 16 acres, and while not an open-air school in the ordinary sense of the word, makes it possible for much of the life of the children to be spent out of doors. It is noticeable that the children are nearly all very young and the cases practically all surgical. The teaching, while carried on regularly and systematically, appears to be entirely secondary to the work of relieving the physical defects. It may be said that it is more of an institution for the correction of defects than for teaching, although the operative part of the work is not done at this place, but at the hospitals of the city. The visiting surgeon's annual report for the year 1912 is given in the Appendix (p. 63).

In New King's Road, London, is located a special school for physically defective girls that represents the other extreme from the school described in Manchester. The Manchester school has as its chief object the relief of physical defects, with the teaching not much more than a pastime—a mere means of entertaining the little folks while

undergoing the unpleasant ordeals of treatment. The work at the New King's Road school has no such object. Its purpose is not to cure or to try to cure the physical defects. The school is for girls between the ages of 12 and 16 whose physical condition is such as to preclude the possibility of their following the ordinary vocations in life. It is a school for training in art work, fancy embroidery, and dressmaking. From time to time the dressmakers of the fashionable west end of London visit the school to comment on the work and examine the girls engaged in it. When the girls leave school they receive about $2 a week to begin with.

Schools for mentally defective children.—Mentally subnormal children present a perplexing problem. The first part of the problem is the selection of the cases. After the classification into normal and subnormal, there are children in the normal who are backward and retarded and must receive special attention in order to finish the average course. Of the subnormal there are two classes to be considered, the educable and the ineducable.

The Defective and Epileptic Act, 1899, has been referred to before as the one under which the education of the mentally defective children is carried on. In 1913 Parliament passed an act known as the Mental Deficiency Act. Its purpose is to provide for those children who are ineducable, and also those who are in a measure educable, but who must be looked after by the State, even after they have received what education they will take. Before this act was passed, whatever responsibility the local authority took upon itself in this matter of caring for mentally defective children was voluntary. While the duties of educating the children remain the same, the new law makes compulsory the ascertainment of all mentally defective children in the respective areas and the ascertainment and notification of children considered ineducable. The treatment of this question is of such vital importance to the nation and the passage of the Mental Deficiency Act was such a long step forward, that it is desirable to quote from the act itself:

SECTION 2.—(2) Notice shall, subject to the regulations made by the board of education, to be laid before Parliament as hereinafter provided, be given by the local education authority to the local authority under this act in the case of all defective children over the age of 7—

(*a*) Who have been ascertained to be incapable by reason of mental defect of receiving benefit or further benefit in special schools or classes, or who can not be instructed in a special school or class without detriment to the interests of the other children, or as respects whom the board of education certify that there are special circumstances which render it desirable that they should be dealt with under this act by way of supervision or guardianship;

(*b*) Who, on or before attaining the age of 16, are about to be withdrawn or discharged from a special school or class, and in whose case the local education authority are of opinion that it would be to their benefit that they should be sent to an institution or placed under guardianship.

SEC. 30.—(h) (iv) Nothing in this act shall affect the duties or powers of local education authorities under the education acts; and the duty of ascertaining what children over the age of 7 and under the age of 16 (hereinafter referred to as defective children) are defectives shall rest with the local education authority as hereinafter provided and not with the local authority under this act; and such last-mentioned authorities shall have no duties as respects defective children, except those whose names and addresses have been notified to them by the local education authority under the provisions of this act.

SEC 31.—(1) The duties of a local education authority shall include a duty to make arrangements subject to the approval of the board of education—

(*a*) For ascertaining what children in their area are defective children within the meaning of this act;

(*b*) For ascertaining which of such children are incapable by reason of mental defect of receiving benefit or further benefit from instruction in special schools or classes;

(*c*) For notifying to the local authority under this act the names and addresses of defective children with respect to whom it is the duty of the local education authority to give notice under the provisions hereinbefore contained.

In case of doubt as to whether a child is or is not capable of receiving such benefit as aforesaid, or whether the retention of a child in a special school or class would be detrimental to the interests of the other children, the matter shall be determined by the board of education.

(2) The provisions of section 1 of the Elementary Education (Defective and Epileptic Children) Act, 1899, shall apply with the necessary modifications for the purposes of this section.

The section of the act of 1899 above referred to is given herewith that the last paragraph may be better understood.

SECTION 1.—(1) A school authority, as defined by the Elementary Education (Blind and Deaf Children) Act, 1893, may, with the approval of the education department, make such arrangements as they think fit for ascertaining—

(*a*) What children in their district, not being imbecile and not being merely dull or backward, are defective; that is to say, what children, by reason of mental or physical defect, are incapable of receiving proper benefit from the instruction in the ordinary elementary public schools but are not incapable, by reason of such defect, of receiving benefit from instruction in such special classes or schools as are in this act mentioned; and

(*b*) What children in their district are epileptic children; that is to say, what children, not being idiots or imbeciles, are unfit by reason of severe epilepsy to attend the ordinary public elementary school.

It will be noted that these sections of the act place upon the local education authority the duty of—

(1) Making a diagnosis of feeble-mindedness, imbecility, or idiocy;

(2) Determining whether the child classed as feeble-minded is capable of benefiting from education in a special school;

(3) Of notifying the local authority, under the Mental Deficiency Act, of all defective children over the age of 7 (*a*) who are incapable of education in special schools; (*b*) who, though educable, are detrimental to other children; (*c*) who require

supervision or guardianship under the Mental Deficiency Act; or (*d*) who after leaving a special school need institutional treatment or guardianship.

Under the Defective and Epileptic Act of 1899 the local education authority could segregate or not; consequently a diagnosis of feeble-mindedness was not necessary. The issue could be avoided. Under later legislation the local education authority must make a diagnosis, report to the local authority every such diagnosis, and, further, must report whether or not the child can profit by work in a special school. The education authority must also report to the local authority all who have reached the age of 16 and are about to be discharged from a special school, if the education authority thinks it would be best for such children to be sent to an institution or placed under guardianship.

Again, the attention of the education authority up to this time has been turned largely to a consideration of backward as well as feeble-minded children. The authority's first duty has been to take such steps as were most necessary to promote education, but now the work must go much further, for the duty of the local education authority is not only the segregation of feeble-minded children who are educable, but to say who are beyond the possibility of an education and must have institutional care or a guardianship all their lives.

The educational authorities are required to examine and classify all children of subnormal mentality. Although the authorities are not required to educate such children in special classes or schools, it is reasonable to suppose that before long a uniform plan for making diagnoses and returning the facts will be worked out. Undoubtedly the enforcement of the new act will give a great impetus to the segregation and training of the feeble-minded by the several local education authorities; for after they have made the examination and classification that the new law requires, they will very probably take the further step of providing special education.

At the end of the school year, July 31, 1913, 175 authorities had taken action under the act. As there are only 318 authorities in England and Wales, it will be seen that a majority of them have taken action. There are altogether 169 day schools and 8 residential schools. These schools accommodate about 13,000 children. It is estimated that there are 24,000 feeble-minded children in England and Wales.

A number of residential schools have been certified by the home office to receive children on committal orders under the Children Act, 1908. In other words, they receive incorrigible feeble-minded children just as the ordinary industrial school, which is under the care of

the home secretary, receives the ordinary morally delinquent boy. One of these schools is in Acre Lane, Brixton, London. The children in these schools show a wide range of mentality, from simple backwardness to embecility, but no child entirely ineducable would be received and retained.

The great majority of children classed as feeble-minded are of the higher grade; that is, very few of them are wholly ineducable. The child who has been classed as imbecile or idiot needs, of course, permanent institutional care or a guardianship; but the child who has been classed as feeble-minded simply may or may not need such care, and here is another of the many problems to be considered by the local education authority. Some of these children may receive education in a special school and become entirely self-dependent; others may be educable to a considerable degree and yet be unfit to be left in the world dependent wholly on their own resources. Another reason why the Mental Deficiency Act will be an impetus to local education authorities to make special provision for the early education of their feeble-minded lies in the assurance that all such children can count on having a permanent home after they have passed the age of school life. On this subject Sir George Newman, in a recent report to the board of education, says:

> There is no doubt that some authorities have postponed making such provision as may seem desirable, owing to the fact that before the passing of the Mental Deficiency Act there was no likelihood that suitable provision would be forthcoming for the residential and prolonged care of children for whom such might be necessary.

In the same report he says also that—

> Under the altered conditions of the case it is probable that many authorities who have not yet taken action under the Defective and Epileptic Act of 1899 will adopt that act and administer it in conjunction with the Mental Deficiency Act of 1913.

The curriculum of these schools is varied and liberal, and school life generally is made as attractive as possible. The routine of the ordinary school can not be employed successfully. More variety and much less concentration are required. There is much manual work, and as a rule this is light and varied. Bootmaking, tailoring, rope weaving, and woodwork are the most common lines for the boys, while sewing, cooking, and laundry work constitute the chief lines in the girls' department. In the advanced years of the student's school life, if his ability and aptitude justify it, he may be allowed to concentrate his efforts on one of the lines of work above mentioned. In numbers of these schools some boys make the boots for the entire school, others make the clothes; while the girls do the housework and cooking. The value of such training will be greater under the new order

of things, for more children than ever will be placed in a colony where they will spend their entire lives, and there do these various lines of work for each other.

Gardening is another work that is profitable for these children, and for this reason it is well for the schools to be located in the rural districts or in the suburbs. Such a location not only gives outdoor employment, but it gives outdoor life for play and recreation. But whether the feeble-minded child is taught in a dark room in the midst of a busy and crowded city or in the open-air life of the rural community; whether he is taught in a day school where he spends only a small part of his time and takes only one meal in the 24 hours, or is taught in a residential school where he spends his whole time—when he leaves the school he is going to need further care and protection. He can not go forth into the world and compete on equal terms with persons who are his mental superiors. On this point a short quotation from the chief medical officer's report for 1912 is instructive:

> The justification for an educational policy for children mentally abnormal is to be sought in the career records after the expiry of school age. It is now recognized that this is absolutely essential for children of this type. It is indisputable that the neglect of some sort of continuous supervision in the case of the feeble-minded is to court failure at the most critical periods in the life of the child. It is this situation which creates the necessity for after-care committees—
>
> (*a*) To follow up each case after leaving school;
> (*b*) To assist in securing employment;
> (*c*) To visit and supervise when the employment has been found; and
> (*d*) To investigate as to conditions and circumstances affecting the career of the child.
>
> In my previous reports reference has been made to the results of after-care work in London and other districts, and I propose to continue some of these references. After-care of the feeble-minded in London is carried out by the After-Care Association for Elder Mentally Defective Children (established in 1910). In the majority of cases the teachers bear a large burden of the duty and succeed in rendering valuable service by keeping constantly in touch with ex-pupils, encouraging them to visit the schools freely, arranging evening social gatherings for them, and helping them in everyday life outside of the schools.
>
> The members of the committee perform admirable service in the case of certain schools in obtaining employment for boys and girls. The objects of the association are to cooperate with the parents and other agencies in obtaining suitable employment for boys and girls leaving the special schools of the London County Council for elder mentally defective children, in order that as large a proportion as possible of the children may become in a measure self-supporting and be prevented from becoming paupers; to endeavor to find homes for the children needing custodial care; to keep in touch by means of visitation with the children placed in situations; to tabulate statistics as to the number of children who are able to work without supervision, who need permanent supervision, and who need custodial care. Each child is visited regularly by the representative manager.

These after-care committees accomplish a great deal in making the defective children more prosperous and happy, yet it is impossible to so care for all of them as to make them independent and self-supporting. The Mental Deficiency Act of 1913, which has been referred to several times, is an "Act to make further and better provision for the care of feeble-minded and other mentally defective persons." It is not an education act, and its connection with the school work, as already mentioned, is its requirement that the school medical officers select those children who at the time, or who will later, need the care provided for in the act. The purpose of the act is to provide for the institutional care of those persons who not only are incapable of taking care of themselves, but who would be a menace to society if allowed to live outside of the environments provided for them. By having the school medical officers select such persons and classify them during school life, much afterdifficulty is avoided.[1]

Schools for children afflicted with chronic contagious skin diseases.—Although schools for children afflicted with chronic contagious skin diseases are felt to be greatly needed, few have as yet been provided. The Edinburgh school board maintains a typical school of this class, which, at the time of the visit by the writer, had about 60 children in attendance, of whom nearly two-thirds were afflicted with ringworm and one-third with favus. So long a time is required for the treatment of these diseases that if the victims are excluded from school until cured, they would get very little education, and without the special school would never get any regular treatment. Some of the pupils in the Edinburgh institution have been absent from the ordinary school for three or four years at the time they entered, and 13 of the pupils had never been to an ordinary school at all. The building comprises three classrooms, a dining room, a treatment room, a lavatory and bathroom, a staff room, and caretaker's quarters. Three teachers are employed and a nurse who gives as much of her time as is necessary.

Open-air schools.—The first open-air school in Great Britain was established in 1907 by the London County Council, in Bostall Woods, near London. The success of this first school led quickly to the establishment of others not only in London but throughout England.

[1] Reference may here be made to the industrial schools of Great Britain, which correspond to reform schools in the United States. These industrial schools do not belong to the public elementary school system, but are under the home secretary. It is worthy of note, however, that a few of the special elementary schools for mentally defective children "have been certified by the home office to receive children on committal orders under the Children Act of 1908." It may be said further that the school physicians look after the children in industrial schools as they do in other schools, and the opinion is increasing that before a child (boy or girl) is committed to a reform institution a searching physical and mental examination should be made in each case.

From the beginning the open-air school has been recognized as both a remedial and a prophylactic agency.[1]

MEDICAL TREATMENT.

Medical treatment, as well as medical inspection for the presence of defects, was regarded as necessary from the inception of the work, and ample provision was made for it in the first general law on the subject.

The duties of the local education authority, as specified in the act of 1907, include—

> the power to make such arrangements as may be sanctioned by the board of education for attending to the health and physical condition of the children educated in public elementary schools, provided that in any exercise of powers under this section the local education authority may encourage and assist the establishment or continuance of voluntary agencies and associate with itself representatives of voluntary association for the purpose.

It is explained that only such treatment will be considered as is provided by the education authority or secured through its agency. Treatments secured under laws not administered by the local education authority, i. e., general health laws, the Children's Act, and the Poor Law, are not included under the provisions of the education department and consequently do not come within the scope of this report.

As a matter of course the first effort is to secure treatment by the family physician. The examination is made by the school medical officer or his assistant, and the parent is duly notified of his findings. The parents are invited and urged to be present at the examination, and the figures show that a large number of them accept the invitation. This gives the medical officer an opportunity not only to secure information that will be of value to him in reaching a diagnosis and recommending treatment, but also an opportunity of talking with the parents and showing the necessity of securing the treatment recommended.

But in Great Britain, as elsewhere, the sending of a note to the parent informing him of the condition does not settle the matter. Probably not over 20 per cent of the cases would receive proper attention if nothing else were done. Follow-up work is required to get results. As stated in the section on administration, 241 authorities have employed school nurses. The great majority of these have been engaged in the work of inspection and following up. But by no means is all the necessary follow-up work done by the nurses. Teachers, attendance officers, and the after-care committees take an important part in this work. In London alone there are over 900 after-care committees, and the value of their work is incalculable.

[1] For a description of open-air schools in England, see Bulletin of the Bureau of Education, 1916, No. 23.

Follow-up work must also be supplemented by reexaminations to determine the extent to which the original notice to parents and the follow-up work have been successful. Often cases that are reported as treated upon reexamination show that the treatment has been in name only. The follow-up work enables those engaged in it to determine whether those whose homes and parents they visit are entitled to free treatment and other free help, such as free glasses. But with all the follow-up work, not more than 50 per cent of those in need of attention get it, except in the case of contagious eye and skin diseases, where treatment is compulsory.

THE SCHOOL CLINIC.

The most effective agency in securing treatment for school children is the school clinic. The board of education limited the treatment that was to be given free, and in 1912 an official circular stated:

> It appears that the disorders and maladies which are most suitable for treatment directly provided by the local education authorities under section 13 of the Education (Administrative Provisions) Act, 1907, are limited in practice to minor ailments, such as uncleanliness, ringworm, and other common skin diseases of children, defective eyesight or hearing, some external affections of the eyes or ears, and various temporary conditions of the mouth (including teeth), nose, and throat.

A school authority may secure from the board a grant for medical treatment and may establish a place for such treatment without providing for all of the above physical defects. For it is not absolutely necessary for the authority, in order to secure a grant, to provide the means for treatment. If the treatment for some of the defects can be best secured at some institution already established, well and good. "The essential thing is that the ailing child should obtain adequate treatment. Only in case such treatment can not be secured from existing institutions is it necessary for the authority to consider means for the necessary treatment."

The school clinics are of two kinds. One is for the purpose of more thorough examination than can ordinarily be made in the school building. The other is for the purpose of carrying out regular treatment. These may both be located in the same building; indeed, this is the rule. The growth of the clinic method of treatment has been very rapid. In the board's suggestion of what should be treated no surgical conditions are mentioned, but much work of this kind is arranged for in the established hospitals. Nearly one-half of the education authorities in England and Wales, however, have established one form or other of school clinic. A statement concerning one inspection clinic follows:

> At East Ham the inspection clinic is conducted on each school day, as follows: Monday, Tuesday, Wednesday, and Thursday from 9 a. m. to 10 a. m., and on

Friday from 9 a. m. until noon. The school medical officer, Dr. Benton, reports as follows: Cases which required detailed and lengthy examination were often met with between the hours of 9 a. m. and 10 a. m., and if the nature of such cases allowed of their being referred to Friday forenoon, when more time was available, this was done. The services of both the school medical officer and his assistant were then available for consultations, where such were deemed advisable. The supply of cases to the inspection clinic were from the following sources:

(1) Cases referred from routine medical inspection for further examination.
(2) Cases sent by school-teachers.
(3) Cases sent by attendance officers.
(4) Cases sent by divisional committees.
(5) Cases brought by parents.

The number of consultations at the inspection clinic during 1912 was 3,493. It will be remembered that the number for 1911 was 1,275.

Up to July, 1913, 140 treatment clinics had been established in 97 different areas. The following are typical:

1. Aberdare.—Eyes, ears, pediculosis, ringworm, impetigo, scabies, eczema, and teeth.
2. Ashton-under-Lyne.—Eyes, ears, ringworm, eczema, and wounds.
3. Barking Town.—Minor diseases of eyes and skin.
4. Barry.—Eyes, pediculosis, ringworm, impetigo, eczema, and itch.
5. Batley.—Eyes, ears, impetigo, ringworm, and verminous conditions.
6. Beckenham.—Eyes, ears, ringworm, impetigo, scabies, eczema, acne, alopecia, and teeth.
7. Bexhill.—Teeth.
8. Birmingham.—Seven clinics covering about as above.
9. Bromley.—Eye and ear diseases, tonsils and adenoids, ringworm, impetigo, scabies, eczema, boils, etc., and teeth.
10. Coventry.—Eyes, ringworm (X rays), and teeth.
11. Folkestone.—Ringworm.
12. London.—Twenty-three centers, treating the various ailments previously mentioned.

Skin diseases, diseases of the eye, ear, nose, and throat, minor ailments, and verminous conditions constitute practically all the work of the treatment clinic. The scope of work of the various clinics differs very much. Some of them do nothing but dental work, while a few do practically everything. The needs of any particular authority determine, in a very large measure, the scope of activity. The rate of grant allowed by the board of education depends upon the character and working efficiency of the authority's provision of medical treatment for those who are in need of it and who would not otherwise receive it. "Necessitous" children are not the only ones included. The board takes the position that all children who do not have treatment provided for them outside of the clinic should have it at the clinic, but that if the parents are able to pay for it they should be made to do so.

The clinic for dental work in Birmingham is one of the best. The schools have the use of the buildings and equipment of the Birming-

ham School of Dentistry. The work of the dental school is carried on in the forenoon and the school clinic in the afternoon. The building is a desirable one, centrally located. Besides this spacious central clinic for dental work, there are several dental clinics in the city in connection with other clinics. Altogether there are seven clinics in this city, with dental work in five.

In Bradford, which was one of the pioneer cities in England in respect to medical inspection, school feeding, and medical treatment, the work has greatly increased in amount and especially in provision for the treatment of children suffering from various disabilities. The number of children treated at the school clinics increased from 841 in 1908 to 6,279 in 1912. The examination and treatment of the eyes of the children is extremely thorough, and the authorities obtain glasses for the children, when needed, by contract at 30 cents a pair.

Sheffield maintains one of the most complete school clinics in the country. All children requiring attention are sent up by head teachers to the school medical department, which is open every Friday and Saturday morning for the examination of these cases by the school medical officers and nurses, who are in attendance on those days. As a result of the examinations, a decision is reached as to the advisability of continuing children in the regular schools or sending them to some one or other class of the special schools.

Among special features of the medical treatment should be mentioned the X ray and skin department, the dermatologist in charge of this work giving three half days every week to the treatment of ringworm and three half days to the diagnosis and treatment of other diseases of the skin. He is assisted by a nurse who devotes all her time to the work. In 1913 a new X ray apparatus was procured, the treatments for that year having increased from 2,706 to 8,238; the number of cases from 709 to 2,593. The average time of treatment by the X ray is 27 days, whereas it is estimated that if the ointment treatment were used, the children would have to lose at least eight months from school. Three months after a child is discharged as cured the nurse reexamines him to see if his condition is satisfactory.

The ophthalmic department was added in 1913 with results that have fully justified the extension. Particular attention has been given to children in the incipient stages of tuberculosis. On this subject the city medical officer says:

> It is now known that this disease, particularly in its pulmonary form, which is the most infectious, occurs more commonly in children than was formerly suspected. The explanation of this probably lies in the fact that children, excluding those in the first two or three years of life, show a marked tendency toward recovery, while adults are more liable to serious illness and permanent damage. This tendency to recovery found in children is a most important reason why children suffering from the early stages of the disease

and delicate children living in contact with cases of consumption should be kept under the closest possible supervision.

The work of the public health and school medical departments of the city have shown the urgent need for dealing with the disease in childhood, while the establishment of a municipal tuberculosis dispensary has provided the means. In order to obtain the maximum of efficiency and the minimum of duplication, in dealing with one set of patients who belong equally to the school clinic and the tuberculosis dispensary, both departments have coalesced; for this reason the tuberculosis medical officer has been appointed by the education committee as a special school medical officer to deal with tuberculosis in children, and the dispensary has been established in the same block of buildings as the school clinic.

Source of cases for the school tuberculosis dispensary:

(1) All cases found during routine medical inspection.
(2) Special cases brought to the attention of the medical inspector at school.
(3) Notified children attending an elementary school, the names of such children being obtained from the medical officer of health.
(4) Suspected cases sent by the medical practitioners, nurses, women inspectors, patients of the tuberculosis dispensary, and others.
(5) Children living in the same house as a notified consumptive. All children of notified consumptives are sent to the dispensary for examination as soon as possible after the notification has been received by the medical officer of health.
(6) Cases found during the examination of bursars, pupil teachers, teachers, and care-takers who may be referred by the committee for an opinion, and to secure the necessary preventive measures being taken.

The children come to the dispensary and are carefully examined by one of the school medical officers, all cases of doubt or difficulty being referred to the chief tuberculosis medical officer. The homes of notified cases are supervised by the women inspectors. A record of the child's weight and symptoms is made, and the child is instructed to attend the dispensary again in periods varying from every week to every six months. A certain number of these children are under their own family doctors and some are under hospitals, but all come up at the appointed times in order that we may be sure that they really are obtaining adequate treatment.

A very important part of the work of the dispensary is the regular examination of the children who have doubtful signs, and it is these children who can be saved if sufficient open-air school accommodation is provided. At the present time the accommodation at Whiteley Wood is totally inadequate to meet the demand.

No notification has been made except in those cases that have definite lung lesions. All the doubtful cases are put in the observation class and these are followed up until it is definitely decided that they are cases of phthisis, or that the chest condition has cleared up.

School clinics and treatment centers of London.—As already stated, systematic medical inspection of schools in England was begun in London in 1891, and broad scope was given to the work before the passage of the act of 1907. In his report for 1901 Dr. Kerr, chief school medical officer for the metropolis, noted that the first steps had been taken looking to the treatment of diseased children. On this point he said:

The selection of children whose efficiency in school is damaged by dirt, parasites, chronic diseases of the ears, or impaired visual acuity is just beginning.

The treatment of all these matters is tedious, has to be thorough, but is a routine of the most monotonous and uninteresting description. The burden at present falls on the hospitals, and they have not yet adapted themselves to it. Whether even with time they can ever efficiently discharge this public duty is at least doubtful.

In his report for 1911 Dr. Kerr stated that 38 per cent of the children examined had medical advice cards issued, and in the same report he considers the agencies for treatment at the disposal of the education authorities. At that time arrangements had been made with many hospitals for the treatment of school children, 13 of which had the sanction of the board of education for a subsidy from the rates. These hospitals dealt with 28,000 children. There were also 21 other institutions, providing for a total of 56,000 children. In addition there were charitable organizations that gave the school medical service valuable assistance. Some of these agencies treated only a few conditions, thus four centers dealt with the teeth only, two with the eye, while others treated ear, nose, and throat.

The year after this report was issued, the London County Council decided that all of the school medical work, including the organization and administration of medical inspection and treatment of children, should be placed under the direction of the medical officer of health of the County of London. As a result of this decision the public-health department, including the divisions pertaining to the school medical work, was reorganized. The same year the State recognized the claims of local authorities for grants toward the expenses of the medical treatment of school children and services auxiliary thereto, and of the £60,000 appropriated for this purpose, London received about £13,000 for the year ending July 31, 1912. This sum represented about 58 per cent of the entire expenditure on the work of medical treatment. As a result both of the new organization and the increased funds, the work of medical inspection was extended and more adequate provision made for medical treatment. Arrangements with the hospitals for treating school children were continued, and these were supplemented by the establishment of medical treatment centers. Twelve hospitals and 22 centers were included in the scheme. During the year 1912 treatment was conducted at 11 hospitals and 17 centers, with accommodation for 73,058 children. Additional provision was contemplated with the view of securing opportunities for the treatment of not less than 100,000 children. Formal agreements were entered into with the hospitals, which are illustrated by the account of those in force at the London hospital, as set forth in the official report:

Arrangements have been made with the authorities of the hospital to provide treatment for the following numbers: Eye cases, 3,000; ear and throat cases, 3,500; ringworm cases, 500. The London County Council pay for the

medical staff at the rate of £50 per annum for each half-day's work per week, and in addition pay the hospital 2 shillings for each case treated in the eye and throat departments and 7 shillings for each case of ringworm treated by X rays. Ringworm treated by drugs is paid for at the rate of 2 shillings per case.

Separate waiting rooms, consulting rooms, and operating rooms are allotted at the hospital to the council's cases.

Eye cases are attended by three of the hospital staff, each of whom attends on two half days per week.

Parents are instructed to apply atropine ointment three times a day for a week before the examination.

Throat and ear cases are dealt with by three members of the staff, two of whom attend twice a week and one four times. The out-patient anesthetist or his assistants are present at operations, which are performed at once, if the parent consents. If the parent is not present, the child is referred at once for consent to be obtained. The arrangements in regard to recovery are excellent, and every case is reexamined within a week. Ten operations can be performed at each session.

No case is attended without a voucher, but care organizers are present, and have powers to issue vouchers forthwith at the hospital at discretion. Children who fail to keep appointments are referred to the local care committees for visitation.

Coordination of the staff with the school medical service is established by means of notes of special cases sent by the latter to the medical staff of the hospital on the one hand, and by the medical staff supplying notes of the work done by them on the other.

The provisions at the school treatment centers necessarily vary. At the Wandsworth School treatment center (315 Garratt Lane) the arrangements are as follows:

The clinic is equipped for dental work, treatment of the eyes, ears, and throat, and for the removal of inflamed tonsils and adenoids. A local branch of the British Medical Association names the staff, subject to confirmation of the London County Council. The staff consists of six physicians and three dentists. One physician attends every afternoon from 2 to 5. One dentist attends for two days of each week from 9.30 to 12.30. The pay is 21 shillings per half day, the usual rate for this kind of work throughout the country. The head nurse is in attendance all the time and does clerical as well as other work. A nurse is in attendance upon the physician or dentist all the time he is on duty; an additional nurse is employed on two days in the week when surgical operations are performed. An optician is also employed to fit frames for glasses. The London County Council gives two shillings for each case treated, which amount goes to the upkeep of the place. The council also donated £100 for the equipment of the place.

Cooperation between the school authorities, the health department, and the parents in this important work is promoted by the use of official circulars, blank forms, and vouchers, specimens of which are given in Appendix (p. 65).

It is worthy of note that the plan of including the school medical inspection service of London in the health department of the council has not hampered or diminished the school service. This now in-

A. DEFECTIVE CHILDREN TAKING MIDDAY MEAL.

B. INDIVIDUAL CARE AND ATTENTION.

A. EDUCATION FOR CRIPPLED CHILDREN.

B. CONVEYING CRIPPLED CHILDREN TO SCHOOL.

A. CARNEGIE INSTITUTE, DUNFERMLINE, SCOTLAND.

B. UTILIZING THE OUT OF DOORS EVEN IN THE CITY.

cludes five divisions, each under the control of a divisional medical officer. The assistant force comprises 17 full-time permanent, 20 full-time temporary, and 20 part-time school doctors.

Medical treatment for school children in Scotland.—Although medical treatment is not general in Scotland, excellent work is done in several centers. The city of Glasgow maintains one of the most thorough and effective systems in Great Britain. Edinburgh is making a beginning in this direction. Particular interest in this report attaches to the city of Dunfermline. Conditions which led to the establishment of the school clinic here are fortunate and peculiar. This is the home of the Dunfermline College of Hygiene and Physical Training, established by funds which Andrew Carnegie placed in trust for the promotion of the physical well-being of the children of the town. The college grants a diploma to students who finish a two-year course. In 1909 this college was recognized by the Scotch education department as a central institution for the purposes of the education (Scotland) act of 1908 and consequently is a center of special training for school medical officers throughout the country. In regard to the school clinics, which have become a valuable part of the work of the college, the trustees express the hope that they may serve as models for other systems and "they extend to all educational bodies and others interested a hearty invitation to visit and inspect at any time any of their branches of work which may be of special interest to them." The school medical officer of Dunfermline makes the following statement in his report for 1911–12:

> The trustees, acting on the advice of their medical officer, opened the first portion of their school clinic in February, 1910. Since then the work has continued to extend. The school clinic has always received the whole-hearted support and sympathy of the members of the trust. Their desire to extend the usefulness of the clinics and to stimulate interest in the question of treatment could have no stronger proof than is shown in their decision to erect a magnificent, fully equipped school clinic and college of hygiene at a cost of £20,000. The clinics at present in operation at Dunfermline are, so far as organization is concerned, probably as complete as any in this country. In certain particulars they provide forms of treatment—for example, the remedial treatment of deformed and other conditions by means of special gymnastic exercises, apparatus, etc.—which are not available in the majority of clinics.

But the College of Hygiene and Physical Training and the school clinics do not constitute all the activities of the Carnegie Dunfermline trustees. The medical inspection itself is a part of their work. In his letter explanatory of the trust, Mr. Carnegie, after stating the amount of the gift, $3,375,000, said that it was—

> all to be used in attempts to bring into the monotonous lives of the toiling masses of Dunfermline more of sweetness and light; to give to them—especially the young—some charm, some happiness, some elevating conditions of life which residence elsewhere would have denied; that the child of my native

town, looking back in after years, however far from home it may have roamed, will feel that simply by virtue of being such, life has been made happier and better. If this be the fruit of your labors, you will have succeeded; if not, you will have failed.

It has been pointed out before that one fact universally recognized in all the work in Great Britain is that medical inspection that is not followed up by medical treatment falls far short of what it should be. The Dunfermline trustees in their school clinic are going even further than is usual. During the year 1912 the number of cases treated was 3,456, the total number of visits reaching 20,000. Since 1914 the clinic has taken children under school age. This has led to an experiment in another direction—a school for mothers. The object of this school is to teach mothers of the poorer classes how to care for children under 1 year of age. A nurse has charge of the work, assisted by volunteers. During the first year of the experiment 284 mothers, with 322 children, were in attendance, and with the increased facilities offered by the new buildings for the clinic the trustees hope to develop an effective supervision of the health of all children under school age.

PHYSICAL EDUCATION.

Physical education is a remedial measure only in part; it is more prophylactic than curative. Yet physicial education is essential to the child's physical progress, without reference to his being defective at the time or to his ever becoming physically defective. In practice there has been too much tendency to associate physical welfare work with a child's health or lack of health. It seems to be taken for granted that if the child is kept *well*, in the sense of keeping him free from disease, there is nothing else to be done.

The board administers the physical training department through the medical inspection staff, and recommends to local authorities a similar course. But it is the board's view that physical training is only a part of the broader work of physical welfare in general, and should be made a subordinate part of the greater system; that the school medical officer should have supervision over all work that has for its object the child's physical welfare. While the majority of authorities have not yet placed their physical training in such relation to the medical inspection department, progress in that direction is very satisfactory, and doubtless the time is not far distant when all lines of physical welfare work will be under one supervision, and that will be the one with the school medical officer at the head.

While the administration of the various departments of the physical welfare movement may not bear that relation to each other that the board hopes to see in the near future, its views on the

place and importance of physical exercise are so fundamentally sound that the work is sure to prosper under the board's guidance. In the "Prefatory Memorandum" of its "Syllabus of Physical Exercises for Schools," issued in 1909, it is said:

> Proper nourishment, effective medical inspection, and hygienic surroundings will not of themselves produce a sound physique. A further requirement is physical exercise. This may, no doubt, be promoted, especially in the case of country children, by a variety of means, but none of these is such that special physical exercises should be entirely dispensed with.

If the child in the country needs a definite course of physical exercise for his proper physical development, it is reasonable to think that the child in the city has even a greater need for such exercises. The authority above quoted says on this point that "these exercises are indispensable both for the development of the body and for the correction of the defects of evil habits induced by an unhealthy physical environment." The position is taken that physical training is important and necessary entirely separate and apart from any idea or connection with disease. The Swedish system of gymnastics, which has been adopted in several European countries, is the one generally employed. The necessity of a graded course, and its adaptation to the needs of the children, are made clear. No child is to be required to carry on work of this kind that is not profitable to him. At this point the work of the school medical officer is invaluable.

Another important principle expressed in this syllabus is that the object of physical training is not mere conformity to gymnastic standards or the production of any particular type of gymnast, but rather the careful and well-balanced development of the physical powers of each individual child.

> The object of physical training is to help in the production and maintenance of health in body and mind. The conditions of modern civilization, with its crowded localities, confined spaces, and sedentary occupations; the increasing need for study and mental application; and the many social circumstances and difficulties which restrict opportunities for natural physical development, all require that children and young people should receive physical training by well-considered methods, not for the purpose of producing gymnasts, but to promote and encourage, by means of such training, the health and development of the body.
>
> The purpose of physical training is not to fit the child to perform certain more or less difficult exercises, but to give him a stronger and more healthy body and to aid him to approach more nearly to the ideal of perfect physical development.
>
> It is especially during the period of growth, when body and mind and character are immature and plastic, that the beneficial influence of physical training is most marked and enduring; and the highest and best results of education can not be attained until it is realized that mental culture alone is insufficient, and that physical exercise is necessary to the development not only of the body but also of the brain and the character.

Physical training should thus be commenced when the child first attends school and should be continued at least throughout the whole of the growing period. The natural free movements of the very young child supply all that is required at the beginning of life in the way of physical exercise. When, however, the child first comes to school, his natural desire for movement is necessarily restricted for purposes of organization and discipline. This restriction must be compensated by frequent opportunities for free movement, which should chiefly take the form of play. This constitutes the first step in what may be considered as physical training. By degrees a few simple exercises may be introduced into the curriculum, which should still contain a large element of play, but play directed by the teacher. The exercises should then be gradually increased until they take the form of regular lessons on the lines indicated hereafter. It is of the greatest importance that the recreative element should never be omitted, if the best results are to be gained. Enjoyment is one of the most necessary factors in nearly everything which concerns the welfare of the body, and if exercise is distasteful and wearisome, its physical, as well as its mental value, is greatly diminished.

On the effects of physical training the syllabus has the following to say:

Physical training has, or should have, a twofold effect; on the one hand a physical effect and on the other a mental and moral effect, which for convenience may be termed educational in the popular sense. The direct results upon the health and physique of the child may be described as the "physical effect." The teacher must clearly recognize that the child is a growing organism whose powers for physical work vary definitely and widely at different ages, and that a scheme of exercises designed for men undergoing training is not suitable for young boys and girls. To meet the special circumstances of continuous growth and development, a course of graduated exercises has been framed to suit children of all ages and both sexes, which aims at training every part of the body harmoniously. Not only can it be adapted to children of various ages, but under medical supervision it can be used to counteract and remedy various physical defects of weakly children.

Exercises, if rightly conducted, also have the effect, not less important, of developing in the children a cheerful and joyous spirit, together with the qualities of alertness, decision, concentration, and perfect control of brain over body. This is, in short, a discipline, and may be termed the "educational effect."

These two elements are obviously blended in varying degree in every suitable exercise and, according to circumstances, now the one aspect of the exercise, now the other, is to be regarded as the more important. The difference consists rather in the stage at which, and the manner in which the exercise is taken than in actual difference of movement.

The first syllabus on the subject issued by the board of education in 1914 was intended to secure the introduction of physical training into all the schools on reasonably uniform lines. As a result of the examination of many systems, the board had decided that the free standing exercises of the Swedish system, together with suitable gymnastic or playground games and simple dance steps, would prove the most satisfactory form of physical training, and hence the scope of the training was set forth in the syllabus as follows:

(1) The adoption of the Swedish system in such a form as to make it universal, progressive, and physiological.

(2) The issue of an official syllabus for use in all the schools.

(3) The training and examination of the teachers in the use and application of this syllabus.

(4) Inspection by the board of education of the work as carried out in public elementary and secondary schools.

In 1909 the responsibility for the administration of the inspection of physical training was placed upon the medical department, and five experts, two men and three women, were appointed to assist in the work.

As soon as physical training was required in the schools, the want of teachers properly prepared for the work became evident. Consequently the system of training was made compulsory in the training colleges for teachers, while as a means of preparing teachers already in the schools to conduct the training, evening classes and holiday classes were encouraged.

Little has been done in the way of employing physical training for the correction of physical defects, but a beginning has been made. In Brighton small classes have been given corrective Swedish exercises for a period of three months, followed by a modified continuation of the exercises. At Bromley a small class has received at the school clinic weekly instructions in proper breathing, a new departure in clinical work. Experience shows, however, that corrective physical training must be undertaken cautiously. It involves watchfulness and detail of the most exacting kind and a great amount of work, since children needing such training are numerous and must have individual attention. In recognition of the difficulties, the board of education recommend that the local authorities should limit arrangements to two classes of children. One class should include all children suffering with spinal curvature sufficiently severe to warrant individual treatment, but no so severe as to seem hopeless. It is suggested by the board of education that the school clinic would be a good place for carrying out the prolonged course necessary for such cases, and that the exercises should be given by a trained expert, whose work should be under the supervision of a medical officer and preferably a school medical officer who has had special opportunities for studying this subject. The second class comprises all children with minor defects. Concerning these it is recommended that "a daily lesson given at the school to a reasonably small class of children, conducted either by an expert instructor or by the class teacher acting under the directions of the expert, is perhaps the best practical way of meeting the difficulty." The hope is further expressed that, in large schools where there are many children suffering from malnutrition and poor physical development, this plan will be successfully carried out by many local authorities.

From the first the chief medical officer has cautioned the school authorities against expecting immediate results from the introduction

of physical training into the school. Much patient, steady work extending over the whole period of school life is necessary if the physical exercises are to produce lasting effects. When the system of training was begun few teachers were prepared to give the exercises properly, and progress in this direction was hampered somewhat by the more pressing needs revealed through the medical inspection. In his report for 1911 the chief medical officer states that—

"The use of the Syllabus of Physical Exercises, issued in 1909, appears to be almost universal": further, that "the interest displayed by the teachers is rapidly becoming more marked, and a gradual but steady improvement is taking place in the teaching of physical exercises in the schools."

V. RÉSUMÉ.

In concluding this survey it seems advisable to dwell upon the salient features of the system of school medical inspection as it has developed in Great Britain. The work, it may be recalled, was started in London several years before it was made a legal requirement for the entire country. The scope early given to the work in the metropolis, and the complexity of the problems which there devolved upon the medical officer, have given great weight to its example and counsels. The main divisions of the service were started experimentally in that city and were subsequently incorporated in the regulations of the board of education. London has also maintained additional features which it would be impossible to extend to smaller areas, but which have yielded results of universal value. For example, a research laboratory was established in the capital as early as 1902 and its administration provided for systematic records of all observations conducted by the experts in charge; these records have been steadily maintained to the present time. The system of special inquiries, which are conducted in all the larger cities, was early undertaken in the metropolis and there led to discoveries respecting the causes of backwardness in children which could not have been ascertained under ordinary conditions. Such, for instance, was the discovery of the presence of congenital aphasia, an infirmity the presence of which had never been suspected, but which explains the backward condition of many pupils.

The passage of the education act of 1907 made the board of education the responsible authority in regard to arrangements for that duty on the part of local authorities. From the beginning the board took a broad view of the work and more and more the school medical inspection was treated as an important part of a greater system. This system includes all efforts made by the State for the physical betterment of the race. Questions of social and industrial hygiene, of eugenics, of physical education, and of general public health all form a part of the great work.

From the beginning, also, it has been the aim of the British system to relieve children suffering from hunger, disease, and infirmity, as well as to discover the cases needing relief. In this effort equal care has been taken to minister to the needy child and at the same time protect the State and the private practitioner from imposition. The treatment provided by the State is thorough. It does not stop with the present condition of the child, but seeks for the cause in the home conditions, the social or the industrial environments of the child, in the belief that the removal of the cause may prevent a re-

currence of the condition. If a school child is the victim of filthy conditions in his home, the whole family may be taken to the cleansing station for treatment, and the home itself subjected to a complete renovation. Such is the British idea of treatment in the broad sense, and while not all authorities are doing such thorough work, it is the universal aim.

Everywhere, also, the authorities are guarded against pauperizing the parents. In everything that the schools do to improve the physical welfare of the child, the parent is called upon and is urged to bear part of the expense if it is possible for him to do so.

The proper coordination, subordination, and correlation of the different branches of the work are emphasized in all instructions issued by the board of education. The two great departments of health—the general health department and the school department—are urged to work in harmony. A majority of the local education authorities have made the medical officer of health for their area the school medical officer, and where this has not been done, hearty cooperation between the heads of the two departments is required. The disposition to follow the instructions of the board are signally illustrated by the action of London County Council, which in 1911 placed the control of the school medical work under the county medical officer of health, with results which are commended in the latest report of the chief medical officer, as follows:

> The most noteworthy feature of the policy of unification has probably been the more intimate relationship which it has been possible to effect with the local medical officers of health, leading to more uniformity in methods of procedure in dealing with outbreaks of infectious diseases in the schools; and as an instance of this, it may be mentioned that the powers of school closure conferred upon local sanitary authorities are now very rarely utilized.

These results, it is recognized, are largely due to the organization of the whole work into six divisions, each under the direction of an experienced specialist. For example, Division 2, which comprehends all the research work of the system, is in charge of Dr. J. Kerr, formerly medical school officer for the metropolis.

The authority given to the board of education in respect to the medical inspection of schools is explicit; no school medical officer can be employed without the approval of this body, and no plan of medical inspection can be put into operation without first passing under the scrutinizing eye of the board's medical staff. All plans of school feeding must also be passed on by the board before they can be put into operation by a local authority if they provide for an expenditure out of the rates (local taxes). Thus the board of education has control of one branch of health work, while the general health officers have charge of the other, and they work in close union for the amelioration of suffering and the upbuilding of the manhood of the nation.

APPENDIXES.

APPENDIX A.—SPECIAL INVESTIGATIONS CONDUCTED BY MEDICAL OFFICERS OF SPECIFIED LOCAL AUTHORITIES.

1. The effects of employment out of school hours on the health of school children. Eastbourne and other authorities.
2. The relationship of the different methods of feeding in infancy to the nutrition and dental conditions found in school children. Rutland and others.
3. The physical conditions of Jewish and Gentile children. Leeds.
4. Rheumatism and growing pains. Middlesex.
5. The health of red-haired children. Worcestershire.
6. The type of reading books used in school. Cheshire.
7. Vision and vision testing. Essex and others.
8. The relation of the size of the family to the physical condition of the child. Kingston-upon-Thames.
9. Squint in school children. Manchester.
10. The physical condition of half-timers. Accrington and Blackburn.
11. Night sweating. Wolverhampton.
12. The relationship between enlarged tonsils and dental caries. Rutland and Gloucestershire.
13. "Nervous" children. Essex.
14. Heart affections. Ilkeston and Staffordshire.
15. The after history of children with heart disease. London.
16. The family history of mentally defective children. Surrey.
17. Color work in schools. Manchester.
18. The lighting of schoolrooms. Abertillery and Cheshire.
19. The influence of school lighting upon vision. Cumberland and Shropshire.
20. Epilepsy in school children. Hampshire.
21. Pigmentation of eyes and hair. Scarborough and York.
22. The physical conditions associated with backwardness. Exeter and others.
23. Causes of dental caries. Shropshire.
24. Ringworm "epidemic" schools. Staffordshire.
25. The temperatures of schoolrooms. Edmonton and others.
26. Clothing and footgear. Sheffield.
27. The prevalence of goiter. Herefordshire and others.
28. The relationship existing between mouth breathing and dental caries. Staffordshire.
29. Deformities and malformations. Essex.
30. The home circumstances of tuberculous children. Scarborough and South Shields.
31. Ventilation, and observations and the amount of CO_2 in the schoolroom. Birmingham and others.
32. The causes of malnutrition. Bootles and others.
33. The relationship between tuberculosis and malnutrition and dental caries. Herefordshire.

34. The physical conditions found in school children of different social types. London and Nottingham.
35. The fitting of school children's spectacles and the condition in which they are kept. London.
36. The prevalence, etiology, and effect of enlarged tonsils. Merionetshire.
37. The investigation of the condition of the water of a swimming bath used by school children. Abertillery.
38. Seating accommodation in schools. Birmingham.

Many of these investigations should prove of great value in the future for the medical inspection work. They all show a disposition on the part of the medical officers that means good for the future of the cause.

APPENDIX B.—SCHEDULE OF MEDICAL INSPECTION.

I. *Name* _____ Date of birth (exactly) _____
Address _____ School _____

II. *Personal History.*

(a) Previous illness of child (before admission): Measles, whooping cough, chickenpox, scarlet fever, diphtheria, other illnesses, which should include any other disorders which must be taken into account as affecting, directly or indirectly, the health of the child in after life, e. g., rheumatism, tuberculosis, congenital syphilis, smallpox, enteric fever, meningitis, fits, mumps, etc. The effects of these, if still traceable, should be recorded.

(b) Family medical history (if exceptional): State if any cases of, or deaths from, phthisis, etc., in family.

1. Date of inspection.
2. Standard (usually grade, in America) and regularity of attendance.
3. Age of child, to be expressed in years and months.
4. Clothing and footgear: Insufficiency, need of repair, and uncleanliness should be recorded (good, average, bad).

III. *General Conditions.*

5. Height: Without boots, standing erect, with feet together, and the weight thrown on heels and not on toes or outside of feet.
6. Weight: Without boots, otherwise ordinary indoor clothes. Height and weight may be recorded in English measures if preferred. In annual report, however, the final averages should be recorded in both English and metric measures.
7. Nutrition: General nutrition as distinct from muscular development or physique as such. State whether good, normal, below normal, or bad. Undernourishment is the point to determine. Appearance of skin and hair, expression, and redness or pallor of mucuous membrane are among the indications.
8. Cleanliness and condition of skin: Head, body, cleanliness may be stated generally as clean, somewhat dirty, dirty. It must be judged for head and body separately. The skin of the body should be examined for cleanliness, vermin, etc.; and the hair for scurf, nits, vermin, or sores. At the same time ringworm and other skin diseases should be looked for.

IV. *Special Conditions.*

9. Teeth: General condition and cleanliness of temporary and permanent teeth, and amount of decay. Exceptional features, such as Hutchinsonian teeth, should be noted. Oral sepsis.
10. Nose and throat: Tonsils, adenoids, submaxillary and cervical glands, the presence or absence of obstruction in the nasopharynx is the chief point to note. Observation should include mouth breathing; inflammation, enlargement, or suppuration of tonsils; probable or obvious presence of adenoids, polypi; specific or other nasal discharge, catarrh, malformation (palate), etc.
11. External eye disease: Including blepharitis, conjunctivitis, diseases of cornea and lens, muscular defects (squints, nystagmus, twitchings), etc.
12. Vision: To be tested by Snellen's Test Types at 20 feet distance (=6 meters). Result to be recorded in the usual way, e. g., normal V=$\frac{6}{6}$. Examination of each eye (R. and L.) should, as a rule, be undertaken separately. If the V be worse than six-ninths or if there be signs of eye strain or headache, fuller examination should be made subsequently. Omit vision testing in children under 6 years of age.
13. Ear disease: Including suppuration, obstruction, etc.
14. Hearing: If hearing be abnormal or such as to interfere with class work, subsequent examination of each ear should be undertaken separately. Apply tests only in general way in case of children under 6 years of age.
15. Speech: Including defects of articulation, lisping, stammering, etc.
16. Mental condition: Including attention, response, signs of overstrain, etc. The general intelligence may be recorded under the following heads: (*a*) Bright, fair, dull, backward; (*b*) mentally defective; (*c*) imbecile. Omit testing mental capacity of children under 6 years of age.

V. *Disease or Deformity.*

17. Heart and circulation: Include heart sounds, position of apex beat, anemia, etc., in case of anything abnormal or requiring modification of school conditions or exercises.
18. Lungs: Including physical and clinical signs and symptoms.
19. Nervous system: Including chorea, epilepsy, paralyses, and nervous strains and disorders.
20. Tuberculosis: Glandular, osseous, pulmonary, or other forms.
21. Rickets: State particular form, especially in younger children.
22. Deformities, spinal disease, etc.: Including defects and deformities of head, trunk, limbs, spinal curvature, bone disease, deformed chest, shortened limbs, etc.
23. Infectious or contagious disease: Including any present infectious, parasitical, or contagious disease, or any sequelæ existing. At each inspection the occurrence of any such disease since last inspection should be noted.
24. Other disease or defect: Any weakness, defect, or disease not included above (e. g., ruptures specially unfitting the child for ordinary school life or physical drill, or requiring either exemption from special branches of instruction, or particular supervision.

Eyes—Mongoloid.

V. *Disease or Deformity*—Continued.

Ears—Size, setting, conformation, lateral symmetry, size of lobes, attachment of the lobe to the cheek, supernumerary lobules.

Tongue—Enlarged, furrowed, papillæ enlarged.

Teeth—Irregular, absent, enlarged incisors.

Palate—Arched, narrow.

Fingers—Webbed, clubbed, defective in number or shape, supernumerary digits.

Limbs—Excessive length of upper limbs.

VI. *Mental Conditions.*

(*a*) Reaction of motor mechanism:

1. Formation of motor ideas. (Execution of simple and new movement from imitation.)
2. Storage of motor ideas. (Execution of simple familiar command by word of mouth.)
3. Power of control, initiative, purpose, and concentration. Success of motor output. (Execution of familiar complex movement.)
4. Motor incompetence. Attitude in standing—position of head, spine, and knees, gait, position of arms, hands, fingers in horizontal extension, general balance.
5. Motor instability. (Habita) Rocking of body, rubbing hands, spitting, biting nails, or licking lips.
6. Motor disturbance. Tremors (face, hands, tongue), chorea, epilepsy, aphasia, hemiplegia.

(*b*) Reaction resulting from sensory stimulation:

1. Attention—color, shape, size, smell.
2. Formation of memory ideas: (*a*) Recognition; objects, sounds. (*b*) Recollection.
3. Association of ideas.
4. Judgment (for example, length, size, distance).
5. Relationship (similarity, contrast, symbolism).
6. General concepts (possession, self-protection, purpose, concentration, initiative).

(*c*) Emotional conditions: Interest, excitement, aggression, cooperation, affection, etc., positive or negative phases.

(*d*) Tests of intelligence:

1. Description of pictures, models, objects, familiar events.
2. Letters, words, reading (word blindness).
3. Counting, manipulation of simple numbers, simple money values.
4. Writing.
5. Manual tests.

VII. *Diagnosis.*

(*a*) Physically defective—stating defect.

(*b*) Blind or partially blind.

(*c*) Deaf-mute or semideaf or semimute.

(*d*) Epileptic.

(*e*) Merely dull or backward.

(*f*) Mentally defective (feeble-minded).

(*g*) Imbecile: In this group symbols "a" to "g" are intended to be correlated when necessary.

VIII. *Treatment Recommended.*

(*a*) An ordinary public elementary school: (i) Normal; (ii) but backward.

(*b*) A special class for dull and backward children.

VIII. *Treatment Recommended*—Continued.

(*c*) Special school (day or residential): (i) Feeble-minded; (ii) morally defective; (ii) epileptic; (iv) unsuitable for special school—imbecile, ineducable, invalid.[1]

APPENDIX C.—SCHEDULE OF THE EXAMINATION FOR MENTAL DEFECTS.

The object of the following schedule is to facilitate the investigation of suspected cases of mental defect. It is of a suggestive nature only and is printed in the present form for the convenience of school medical officers making inquiries into the mental condition of feeble-minded children.

I. *Name of Child*, address, name of school.

II. *Particulars* of home conditions, environment, school attendance, and other factors.

III. *Family History.* Insanity, feeble-mindedness, alcoholism, tuberculosis, miscarriage, syphilis, epilepsy, other characteristics.

IV. *Personal History.* Constitutional defects, injury at birth, malnutrition, rickets, diseases of childhood, commencement of teething, walking, speech, physical state of mother, length of gestation, convulsions, accident.

V. *Physical Conditions.*

(*a*) General: Speech—defective articulation; sight—blindness (total or partial), errors of refraction; hearing—deaf-mutism, partial mutism, partial deafness; nose and throat—enlarged tonsils, adenoids, mouth breathing, control of spinal reflexes and of salivation.

(*b*) Stigmata: General retardation—cretinoid development; cranium—microcephaly, hydrocephaly, asymmetry, rickets, imperfect closure of fontanelles, simple head measurement; hair—double and treble vortices, wiry or supple; face—irregularity of features; lower jaw—protruding or receding.

APPENDIX D.—DETAILS OF LONDON COUNTY COUNCIL CLEANSING SCHEME.

1. Verminous Heads.—The procedure of this scheme, which is applied in certain schools in which the conditions necessitate stringent action and in which the more complete scheme to be later described is not in operation, is as follows:

The school nurse examines all the children at the school and notes the conditions of their heads, using strict precautions against contagion. The head teacher is then supplied with a white card for each child whose head requires cleansing. The card, which draws attention to the condition and contains directions for cleansing, is closed in a sealed envelope and taken home by the child. At the end of the first week all cases not treated are separated from

[1] With notes as to the aftercare, custody, and the degree and character of manual training and ordinary school teaching likely to be advisable.

the other children and a red card with full details is filled up by the nurse for each child still unclean. This is forwarded to the divisional superintendent, who has the card delivered at the home by the attendance officer. At the end of the second week the assistant superintendent of school nurses visits the school and examines the children proposed for exclusion. After exclusion the divisional superintendent takes out a summons; but any child properly cleansed before the hearing of the case is readmitted to school, examined by the nurse, and the summons is not pressed, the circumstances being explained to the magistrate.

It was found, however, that there were a number of children whose hair required attention, but who could not be classed with dirty children. There existed no method whereby the attention of the parents could be drawn to the condition except by verbal messages. Difficulty arises with regard to such messages and to overcome this an additional (yellow) card was prepared in July, 1912, drawing attention to the condition, and this card has since been used. The following table shows the results of examinations in those schools where the cleansing scheme, as applied to heads, has been put into operation during the year:

Results of examinations.

Departments.	Number examined.	Number clean.	Number verminous.	Number proposed for exclusion.	Number excluded for prosecution.
Boys	637	596	41	18	11
Girls	41,025	29,340	7,841	3,804	2,877
Infants	13,781	11,607	1,394	596	400
Mixed	7,875	6,862	655	322	227
Special	933	635	217	143	79

The difference between the number examined and the total of "number clean" and "number verminous" is due to the number "slightly dirty." Before children are "proposed for exclusion," three notices either of advice or warning have been sent to their parents, but without effect.

The parents of 133 children were prosecuted, and fines varying from 2s. 6d. to 10s. were imposed. In the specially selected schools in which this scheme has been applied, the percentages of children verminous among children examined was 15.8 in 1912, as compared with 14.2 in 1911. The head-cleansing scheme still gives very good results in districts where the cleansing stations have not been established, and the standard of cleanliness in the schools has been progressively raised both in the poorer schools and in those attended by better-class children. The standard set in the case of scholarship candidates in respect of cleanliness of the head has had an educative effect on the elementary and secondary schools. Only a very small proportion of scholarship children are now rejected on this account.

2. *Verminous Bodies and Clothing.*—The revised scheme for dealing with verminous bodies and clothing (under section 122 of the Children Act, 1908) as now at work is given in the following:

The school nurse visits the school and examines all the children. Those whose persons or clothing are not infested with vermin or are not in a foul or filthy condition, but show traces of vermin or are in an unclean condition, take home in a closed envelope a card drawing attention to the unsatisfactory condition and containing advice as to remedial treatment. The children are kept under observation and if an improvement does not occur, a similar card drawing attention to the council's powers under the Children Act is forwarded by the school nurse to the nurse in charge of the station, who inserts on the card

in the space provided for the purpose, particulars as to when the child may attend for a voluntary bath. The card is then returned to the head teacher, who places it in a closed envelope to be taken home by the child.

This card is also issued to children actually found verminous at the first examination. At the same time, with a view to simultaneous action being taken under the London County Council (General Powers) Act, 1904, Part IV., in regard to conditions obtaining within the homes, the local medical officer of health is informed of the child's condition and of the opportunity given for a bath. Children who keep the initial appointment are given opportunities for three voluntary baths in all, at intervals of from 3 to 10 days. Should the conditions recur, a further notice is issued. Those children who do not take advantage of the opportunities afforded are separated from the clean children in school and the divisional superintendent is requested to serve on the parent or guardian a statutory notice requiring them to cleanse the child within 24 hours, and again offering a voluntary cleansing, should there be no convenience for bathing at home. In the event of a child attending voluntarily at this stage and subsequently becoming verminous, the statutory notice is served again, and, if necessary, repeated before the scheme can proceed. Notification of the request for the service of the statutory notice is forwarded to the local medical officer of health, in order that he may deal with the clothing, etc., at the home, if necessary. The divisional superintendent notifies the nurse when the notice has been served and she reexamines the child, and, if necessary, conveys it to the station for compulsory cleansing. The divisional superintendent is kept informed with regard to all compulsory baths.

In the case of children compulsorily cleansed who are subsequently found verminous, a form similar to the statutory notice, but stating that police court proceedings are being instituted and offering a further voluntary bath, is served upon the parent or guardian. A summons is immediately procured and the local medical officer of health informed of the fact. Pending the hearing by the magistrate, those children who fail to attend for the voluntary bath are examined and, if necessary, are excluded, but any child who presents itself at school as clean is readmitted. The nurse is immediately notified of the readmission, makes an examination, and decides whether the child should continue in attendance. After the hearing of the case in court, the child is conveyed to the station and cleansed.

The practice of keeping the borough medical officers of health informed concerning the various stages reached in each case was introduced with a view to further cooperation between the authority responsible for cleanliness in the home and that responsible for cleanliness in the school, it being useless to cleanse a child if the clothing, bedding, etc., in the home are allowed to remain in a filthy condition. The form of notification has a counterfoil attached, upon which the borough medical officer of health can make a note of the action taken in each case. During the year 670 parents were fined amounts varying from 1s. to 10s. with 2 shillings costs, in respect of each child.

APPENDIX E.—REPORT OF THE MANCHESTER SCHOOL FOR CRIPPLED CHILDREN.

The number of children in the schools on December 31, 1911, was 101—47 boys and 54 girls. There have been admitted during the year 61 new cases, and in addition to these it was thought desirable to readmit 5 old cases for short periods.

No less than 65 cases have been discharged from the school during 1912. The results in these cases may be classified as follows:

Apparently cured	40
Improved	19
At parent's request	1
Unfit for treatment	5
Total	65

The 40 cases discharged as apparently cured consist almost entirely of rickets and surgical tuberculosis. The rickety cases have been discharged with their deformities completely corrected, whilst each case has been under treatment for a sufficient length of time to arrest the disease, and to insure that there shall be no relapse. The tuberculous cases include a number of instances of spine and hip disease which have been in the school for a period of two or more years, and have given particularly gratifying and satisfactory results. In each case the disease appears as cured; the children present no deformity, and will be able to take their active share in either school or work. The improved cases, 19 in number, include 4 cases of scoliosis, 7 of paralysis, 7 of rickets, and 1 of congenital defect. Each of these 19 cases is distinctly benefited by its stay in the school, but the nature of the disease and the extent of the deformity absolutely precluded any cure in the strict sense of a return to the normal. Each case should, however, be able to attend school or follow some employment. The paralytic cases are especially noteworthy. They were all of a most extensive and severe type, quite unable to walk, and, in fact, several of them had not walked since birth. As the result of operative treatment, assisted by the provision of simple appliance, these children will now be able to attend school, and subsequently to earn their own living. Of the five children discharged as unfit for treatment, two have since died, in each case of tuberculous disease.

The total number of children who have been treated at the school during 1912 is 167. The cases comprise:

Tuberculosis:	
Spine	29
Hip	26
Knee	15
Ankle	2
Severe rickets	68
Paralysis	15
Various other diseases	12
Total	167

During the year 22 operations on inmates of the school have been performed by your visiting surgeon at the Manchester Royal Infirmary.

The number of children remaining in the schools on December 31, 1912, is 102, equally divided between boys and girls.

During the year much time and care have been spent in the study and improvement of the modern methods of treatment in tuberculous disease, disease of bones and joints. The results in these cases, which above all others call for constant supervision over long periods, have been most gratifying, and for the excellence of these results I am very greatly indebted to the constant and enthusiastic cooperation of the matron and nursing staff. The condition of those tuberculous cases which have been discharged in previous years has been carefully investigated, and a record of their progress is being kept. I am glad to report that almost without exception they remain well. The majority of them are now engaged in various occupations, and some of them are showing that their work, side by side with that of normal individuals, is above the average.

APPENDIX F.—CIRCULARS AND BLANK FORMS ISSUED BY THE PUBLIC HEALTH DEPARTMENT, L. C. C.

Circular M. T. 1.

LONDON COUNTY COUNCIL.

PUBLIC HEALTH DEPARTMENT.

SIR (or MADAM):

I understand that you wish to obtain medical treatment for your child.

Suitable treatment will be provided at the hospital / center named on the inclosed card, if the following conditions are observed:

1. The entire card must be presented.
2. The child must be taken on the date named on the card.
3. The child must be taken by one of the parents or some other responsible person.

It is hoped that you will be able to avail yourself of the arrangements which have been made.

The charge for the treatment is 1 shilling. This charge may be reduced to 1 penny if the School Care Committee are satisfied that parents are regular subscribers to the Hospital Saturday Fund, or that parents are unable to pay 1 shilling. The amount will be collected from you by the school attendance officer. The section of the Act of Parliament dealing with this matter is printed below.[1]

I am, Sir (or Madam), your obedient servant,

W. H. HAMER,
School Medical Officer.

To the PARENT or GUARDIAN.

[1] LOCAL EDUCATION AUTHORITIES (MEDICAL TREATMENT) ACT, 1909.

SECTION 1. Where any local education authority provides for the medical treatment of children attending any public elementary school under section 13 of the Education (Administrative Provisions) Act, 1907, there shall be charged to the parent of every child in respect of any treatment provided for that child such an amount not exceeding the cost of treatment as may be determined by the local education authority, and in the event of payment not being made by the parent, it shall be the duty of the authority, unless they are satisfied that the parent is unable by reason of circumstances other than his own default to pay the amount, to require the payment of that amount from that parent, and any such amount may be recovered summarily as a civil debt.

Form D. O. 29.

LONDON COUNTY COUNCIL.

315 Garratt Lane,
Wandsworth, S. W.,
_____ *1912.*

School _____
Name or Child _____
Address _____

Dear Sir (or Madam):

This child, who had a voucher card for the Wandsworth School Treatment Center, _____ department, dated _____, did not attend on that date.

Will you, if possible, return this voucher to me. It should not be used on another date.

An appointment will be made and a voucher card forwarded for a later date, if you apply again.

Yours, faithfully,

E. F. Brownson.

The Hon. Secretary,
School Care Committee.

Form D. O. 23.

LONDON COUNTY COUNCIL.

315 Garratt Lane,
Wandsworth, S. W.,
_____ 191 .

School _____
Name or Child _____
Address _____

Dear Sir (or Madam):

This child has been registered as a patient at the _____ department of the Wandsworth School Treatment Center, but has failed to attend in accordance with the instructions of the Center Authorities. I shall be glad if you will be good enough to take action with a view to securing that the child resumes attendance as soon as possible. The child should attend on _____ day or _____ day.

Yours, faithfully,

E. F. Brownson,
Nurse.

The Hon. Secretary,
School Care Committee.

Form D. O. 41.

LONDON COUNTY COUNCIL.

315 Garratt Lane,
Wandsworth, S. W.,
_____1913.

School_____
Name of Child_____
Address _____

Dear Sir (or Madam),

The above-named child has now been discharged from further attendance in the_____department of the Wandsworth School Treatment Center.

Yours, faithfully,

W. H. Hamer,
School Medical Officer.

The Hon. Secretary,
School Care Committee.

VOUCHER CARD.

(EYE.)[1]

LONDON COUNTY COUNCIL.

_____School. _____Dept.

As you are unable to obtain suitable medical treatment for your child _____ arrangements have been made for $\frac{\text{him}}{\text{her}}$ to receive treatment at the

WANDSWORTH SCHOOL TREATMENT CENTER,
315 Garratt Lane, Wandsworth SW.,

if $\frac{\text{he}}{\text{she}}$ attends the Center with one of $\frac{\text{his}}{\text{her}}$ parents, or some other responsible person, on _____day, the _____, 1913, at 2.15 o'clock and presents this card.

W. H. Hamer,
School Medical Officer.

Mr. (or Mrs.)_____

[1] Similar cards but of different colors are used for ear, nose, and throat, and dental clinic.

Form D. O. 27.

LONDON COUNTY COUNCIL.

315 Garratt Lane,
Wandsworth, S.W.,
_____ 191 .

_____ School.

Case of _____ Voucher No._____

Address _____

Dear Sir (or Madam).

The above-named child attended at the Wandsworth School Treatment Center on _____ and was ordered glasses for _____. I should be glad if you would bring the matter to the notice of your committee and ask them to make arrangements for the necessary assistance to be given to the parents if they are unable to provide the glasses.

Please fill up and return the inclosed post card (D.O. 42) when the child has actually received the spectacles.

He / She should again attend the Center for examination in_____.

Yours, faithfully,

E. F. Brownsdon,
Nurse.

The Hon. Secretary,
School Care Committee.

LONDON COUNTY COUNCIL.

Nurse Brownsdon,
315 Garratt Lane,
Wandsworth,
S.W.

D.O.42.

LONDON COUNTY COUNCIL.

School _____

Name of Child_____ Voucher No._____

This child has now obtained the necessary glasses as prescribed by the Wandsworth School Treatment Center, the parents paying _____ toward the cost.

If helped by any agency please give name. _____

_____

On behalf of the School Care Committee.

It is important that this card should be filled in and returned to Nurse Brownsdon, as requested.

WANDSWORTH SCHOOL TREATMENT CENTER,

315 Garratt Lane, Earlsfield, S. W.

Having had the facts explained to me, I hereby give my consent to the administration of an anæsthetic and the performance of any necessary operation upon _____.

Signed by

_____

Father(mother) of child.

_____ 19__.

The next form is for a notice from the nurse to the secretary of the school care committee, and advising him that the child named in the notice was in need of glasses and asking that he take necessary steps to provide them. A postal card accompanies this notice on which the secretary is asked to reply to the nurse and notify her that the glasses have been secured, stating at the same time how much the parents contributed toward the same.

To the Parent or Guardian.

WANDSWORTH SCHOOL TREATMENT CENTER,

315 Garratt Lane, Earlsfield, S. W.

You are required to bring your child to the above address on _____ _____, *the* _____ *day of* _____ *next, at 2 o'clock, to be operated on as explained to you before you gave your consent.*

Please give a dose of castor oil on _____ *not later than 7 o'clock in the evening.*

On the morning of _____ *give ordinary breakfast* **not later than 8 o'clock.** *At 12 give some beef tea, but* **without** *anything solid. No solid food or milk is to be given after breakfast.*

After the operation, the child is not to be taken home before permission is given.

On arrival at home the child is to be put to bed for 24 hours, and fed only on liquid food.

(*Signed*) _____

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770 14/1/20

NOTICE TO BORROWER

This card is to be kept in this pocket and returned with the book.

No book will be loaned without presentation of the borrower's card.

This book must be returned on or before the last date stamped on the card.

If not requested by another borrower the loan may, on application, be renewed.

This book must not be marked or mutilated in any way.

In case of loss its value must be paid to the Librarian.

Any violation of these rules may deprive the borrower of any further privileges of the Library.

Department of Education, Toronto.

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